

554

SCIENTIFIC LIBRARY



UNITED STATES PATENT OFFICE

GOVERNMENT PRINTING OFFICE

11-8625

2

1

257 371

4405 Post

THE BICYCLING WORLD

FOUNDED 1877

and MOTORCYCLE REVIEW

U. S. Patent Office
Dept. of Interior

U. S. PATENT OFFICE
APR 5 1902

In which is incorporated "THE WHEEL" (New York) and the "AMERICAN CYCLIST" (Hartford)

Vol. XLV.
No. 1.

New York, N. Y., U. S. A., Thursday, April 3, 1902.

\$2.00 a Year.
10 Cents a Copy.

1340 Miles Since Jan. 3, 1902

THAT'S WHAT COUNTS

111 A. DeKalb Ave., Jersey City, N. J.

March 24, 1902.

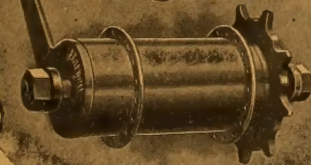
THE BARWEST COASTER BRAKE CO.,
83 Chambers St., New York City.

Gentlemen:—On January 3rd, 1902, I had my wheel equipped with a Barwest Coaster Brake by Mr. J. H. Livingston, bicycle dealer, 2565 Boulevard, Jersey City, N. J., and, having used it almost every day since that time, I wish to testify to its superiority over other coaster brakes. I have ridden 1340 miles since I got your brake and during the time have found it to be a thoroughly trustworthy, easy-running brake.

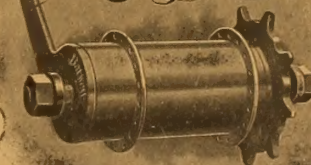
Having used the _____ and the _____ coaster brakes, I do not hesitate to say the Barwest is the best.

Yours very truly,
(Signed) ROBERT SCOTT.

THE Barwest
Coaster Brake



THE Barwest
Coaster Brake



SPRING IS NOW UPON US

RIDERS—Examine this Coaster Brake. You want the best.

DEALERS—Get posted, so you can talk intelligently.

COASTS ON BALLS. NEVER STICKS, SQUEAKS OR RATTLES. NO FIBRE.
BRAKE RING IN CENTRE OF HUB. SPROCKETS ALWAYS IN LINE.

Barwest Coaster Brake Co., 83 Chambers St., New York.

PACIFIC COAST DISTRIBUTORS: Phil B. Bekeart Co., 114 Second St., San Francisco, Cal.

78404

THE DEALERS'
ONLY FRIEND.



The Racycle

NEVER CHANGES AN ESTABLISHED PRICE.

NEW GOODS FROM FRESH STOCK.

No Has Beens, Dead Ones or Junk to offer at less than factory cost.

THE ONLY GENUINE HIGH-GRADE WHEEL MADE.

THERE ARE NO CHEAP RACYCLES.

DEALERS KNOW IT.—RIDERS KNOW IT.—THE PUBLIC KNOW IT.

Why not give your trade to the only concern that has refused to aid
in demolishing prices and cutting down the Dealers rightful profits?

The Miami Cycle & Mfg. Company, MIDDLETOWN,
OHIO. ~ ~ ~ ~

KELLY ADJUSTABLE BARS

FOR SIX YEARS THE STANDARD OF THE WORLD.

...Afford...

23

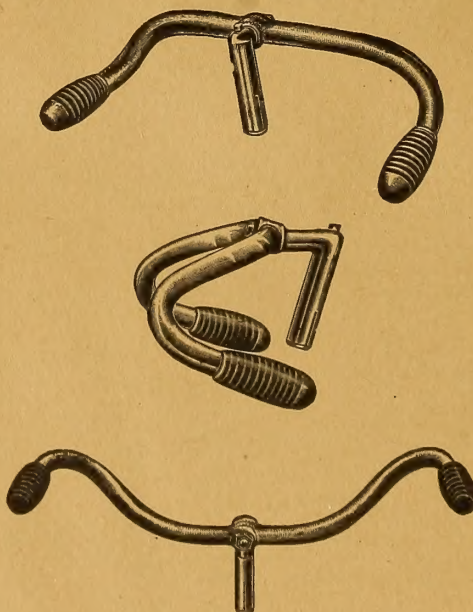
Changes of position.





Only steel forgings and 'seam-
less steel tubing are
used in Kelly bars.

Castings and brazed tubing

do not fit the 'Kelly
reputation.



Nearly  

2,000,000

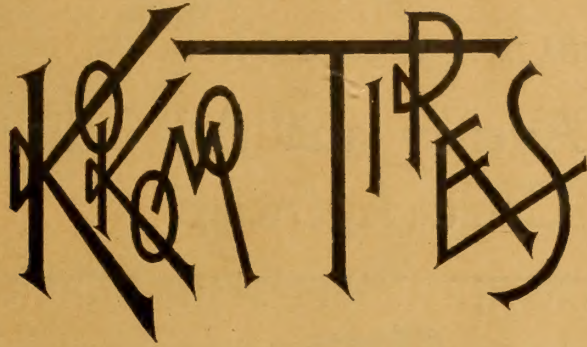
in use, and every day is add-
ing to the number and in-
creasing the comfort of
cyclists wherever
bicycles are
used.



Specify the Kelly
and thus assure the satis-
faction of your
customers.

THE KELLY HANDLE BAR COMPANY, Cleveland, Ohio.

That Bicycle
is Well Tired
that
is fitted with



Paradoxically,
the rider of it
is tired less
than
by any other tire.

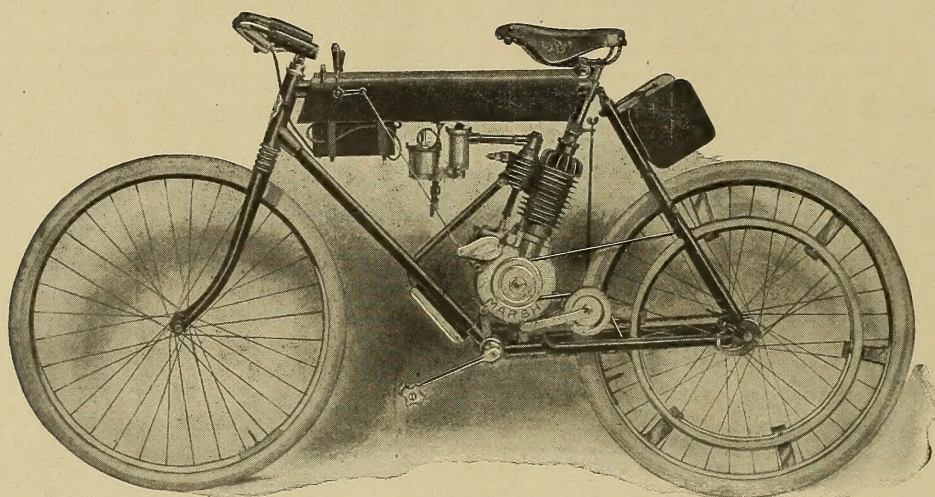
The
"Life"
and
Responsiveness
of
Kokomo Tires
is as
great as their
Durability.

Kokomo
Rubber Co.,
Kokomo,
Ind.

We do not ask you to pay
\$175
for the privilege of trying an experiment.

THAT'S THE DIFFERENCE BETWEEN

The Marsh Agency and All Other
Motor Cycle Agencies.



MARSH MOTOR BICYCLE

We have done our own experimenting. As a result we are able to guarantee our bicycle in terms which no other manufacturer begins to even approach.

If the Marsh fails to run or to give satisfaction you get your money back when you ask for it.

We could not afford to give such a guarantee if we did not know what our bicycle would do.

MOTOR CYCLE MFG., CO., Brockton, Mass.



PRICE, \$200.

The De Long Motorcycle

IS POSITIVELY FOOLPROOF.

About everything imaginable in the way of commendation has been said of our simplicity in operation.

OUR CATALOGUE GIVES FULL INFORMATION.

Wideawake bicycle dealers let us hear from you.

WRITE FOR OUR AGENCY TERMS.

INDUSTRIAL MACHINE CO., Phoenix, N. Y.

ORDERS FOR OAKS ARE ROLLING IN.

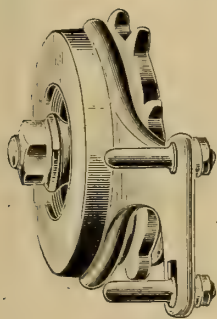


The Opening of the Riding Season

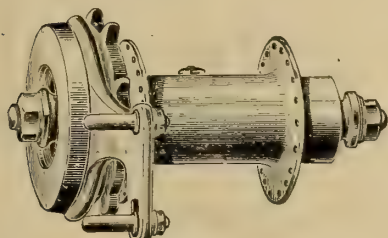
has quickened the demand enormously and "the king of saddles" is claiming new customers by the thousands. The combination of quality, price and guarantee is making itself felt.

Are you obtaining your share of the business?

NEWARK CYCLE SPECIALTY COMPANY, - Newark, N. J.



DETACHABLE.



UNIVERSAL.

PATENTED

June 12, Aug. 14, Dec. 25, 1900.
Feb. 19, Mar. 26, April 1, 1901.

Wyoma Universal

COASTER, BRAKE AND HUB COMBINED.
WILL FIT ANY BICYCLE. READY TO INSERT IN WHEEL BY LACING IN SPOKES.

Wyoma Detachable

MADE TO FIT THE LEADING STANDARD HUBS.
BOTH MODELS WILL ALLOW REAR WHEEL TO

RUN BACKWARDS.

FIVE PIECES, SHOWING CONSTRUCTION OF 1902 MODELS.

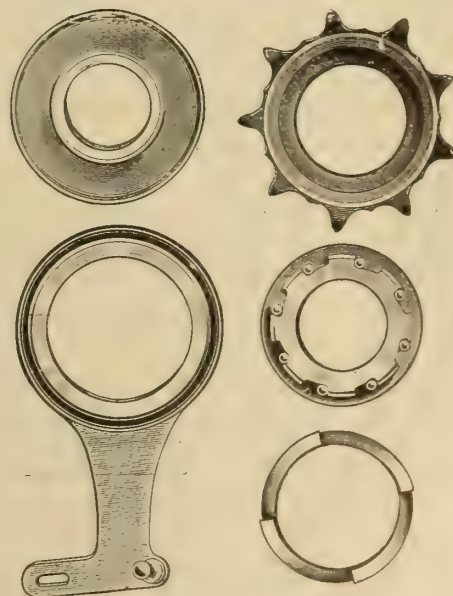
NO FIBRES.

NO BALLS.

FULLY GUARANTEED.

MANUFACTURED BY

Reading Automobile and Gear Company,
TENTH AND EXETER STS., READING, PA.





A BETTER POST WAS NEVER MADE

Is the verdict for

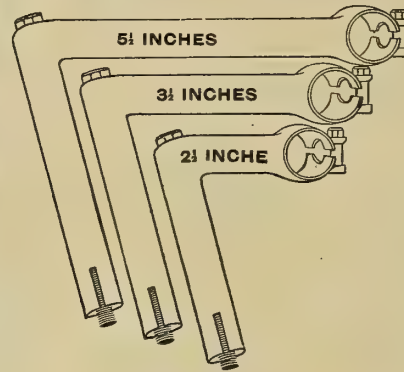
THE SMITH TWO-ROLLER SPRING SEAT POST.

Time has demonstrated its superiority over the many other makes now on the market. Your stock should be well supplied to meet the sure demand from the riders.

TRUE MERIT AND ADVERTISING
DOES IT. ORDER TODAY.

JOS. N. SMITH & CO., - Detroit, Mich.

IDEAL HANDLE BARS



Patented June 13, 1899.

**For 1902
ARE BETTER THAN EVER,**

and sold for only a small advance
over cheap trash.

ORDERS PROMPTLY FILLED

We make extensions out of forged steel with a forward throw of 2 1/2 inches, 3 1/2 inches and 5 1/2 inches.

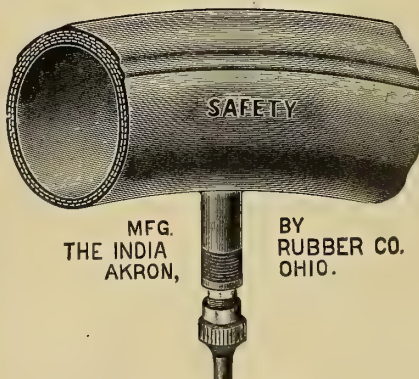
We also make bars for Motor Cycles, with re-enforcement so they will stand, with raise or drop of 1 1/2 and 3 inches.

Write for prices to the

IDEAL PLATING COMPANY,
3 Appleton Street, BOSTON, MASS.

We have the largest and best assortment of tires
ever offered to the bicycle world.

THE SAFETY



See that tread?

Its tough!
It's puncture-proof!

THESE ARE TWO OF OUR
LEADERS AND MUST
BE SEEN TO BE
APPRECIATED.

They speak for themselves
and sell themselves.

WRITE US FOR PRICES AND
SPECIAL INFORMATION.

THE DAISY



A big winner last season.
Leading the procession
this season!

THE INDIA RUBBER COMPANY, Akron, Ohio.

INDIAN
CYCLES **\$25.00**

ONE INCH TUBING.

New Indian Hanger.

SEND FOR CATALOGUE.

HENDEE MFG. COMPANY, Springfield, Mass.

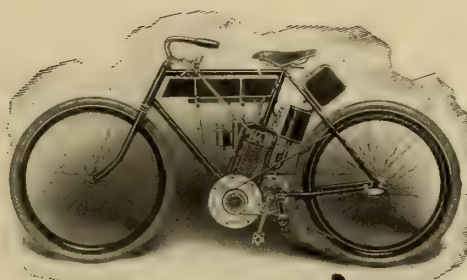
The H. A. Matthews Mfg. Co.

MANUFACTURERS OF

BICYCLE FITTINGS

of all description and of the finest quality,

SEYMOUR, CONN., U. S. A.



In the **HOLLEY MOTOR BICYCLE** we offer a motor bicycle which really satisfied us—and that means that it will satisfy everybody else. It is a solid, substantial, rigid, well-made machine. It is absolutely reliable—permanently so. It is a machine whose appearance is something to be proud of and one whose dependability will appeal strongly to the rider. It offers the only correct solution of the motor question—the brazing of the motor in an upright position at the crank-hanger. We originated this method and have patented our construction.

We have the motor bicycle that everybody is going to insist on having if they see it.

Every part and detail is guaranteed fully by us on a money-back basis.

THE HOLLY MOTOR CO., Dept. B, Bradford, Pa.

If you see a motor bicycle with the motor placed in an upright position at the crank-hanger, it's a Holley or an imitation.

\$25.00 REWARD

For information about dealers using or handling infringing tire fluids. **WRITE FOR CONDITIONS.**

NEVERLEAK and **CLINES LIQUID RUBBER** are the only fluids that can be legally used in pneumatic tires.

LAWSUIT NOTICE!

We respectfully advise our friends and the trade that we have commenced suit in the United States Court against the Fixem Mfg. Co. of Pawtucket, R. I. for infringement of our Neverleak patent rights and that same is now pending.

Suits against other infringers, wherever discovered, will be promptly instituted.

We believe the trade in general is in favor of fair play and we take this opportunity of guaranteeing to prosecute anyone violating our rights by making, using, selling or offering for sale any fluid or compound not made by us.

BUFFALO SPECIALTY MFG. CO., Buffalo, N. Y.
Owners of NEVERLEAK Patents.

ANDRAE

is making a proposition to dealers that every dealer should write for. It's the proposition you are looking for if you're looking for profit. You can have it by simply writing for it.

ANDRAE

bicycles for 1902 are the best for you to sell because they are the easiest to sell. They are the best cycles made and always have been. The Andrae Carrier Tricycle is the favorite with merchants. It's listed complete at \$60.00.

ANDRAE

terms and prices should be on your desk. They'll surprise you. You ought to be very willing to write for them. Address

JULIUS ANDRAE & SONS CO., Milwaukee, Wis.

C. B. BARKER & CO., Ltd.

93 Reade St., New York City.

EVERYTHING IN THE
Bicycle and Automobile
SUNDRY LINE.

Novelties Tools Specialties
Standard Goods at Standard Prices.

SEND FOR OUR CATALOGUE BEFORE PURCHASING.

SPECIALTIES:

NATIONAL CEMENTS.
COLUMBIA MORGAN BARS.
CRAWFORD BICYCLES.
BARKER BICYCLES
PIONEER TIRES.
FRENCH HORNS.
COASTER BRAKES.
HILTON VALVES.
DUNLOP TIRES.
LAMP.

FAIRBANKS WOOD RIMS.
AMERICAN HORNS.
INDIA TIRES.
BELLS.
TIRES.
OILS.
TOOLS.
PUMPS.
WRENCHES.
ETC., ETC.

KELLY HANDLE BARS.

C. B. BARKER & COMPANY, LTD.

93 READE ST., NEW YORK CITY.

Not what we say, but what we do

MAKES THE QUALITY OF THE

Century Special Racer



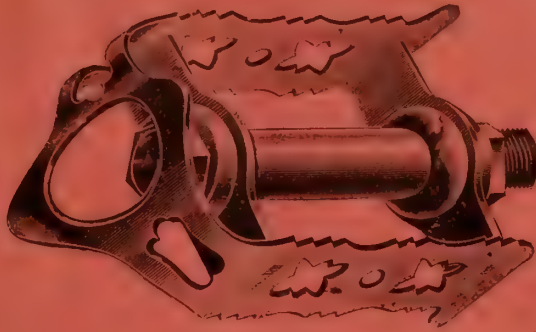
HERE'S WHAT WE PUT INTO IT.

Flush Joints...Seamless Tubing...Fauber Perfection Hanger...Thor Hubs...
Tucker Hard Maple Rims...Diamond E Spokes...Kelly Extension Handle Bar...
Troxel Racing Saddle...Star Racing Saddle...Palmer Tires.

If you know anything about cycle material, you know that those specifications constitute the best the market affords.

OUR CATALOG AND QUOTATIONS ARE AS CAPTIVATING
AS THE BICYCLE ITSELF

MILWAUKEE CYCLE CO., 249-251 Lake Street, Milwaukee, Wis.



KEIM.

JOHN R. KEIM

BUFFALO, N. Y.

Manufacturer of

Bicycles and Parts,

**Automobile
Engines,**

Forgings, etc.

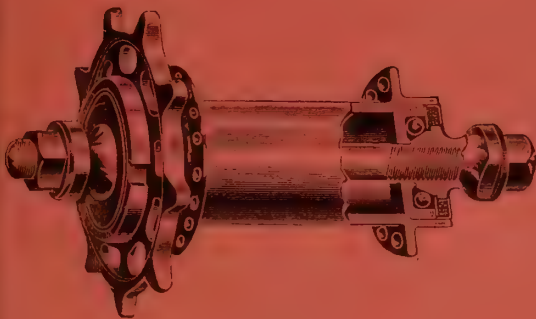
**SPECIAL DIES AND
TOOLS.**

SCREW MACHINE PRODUCTS.

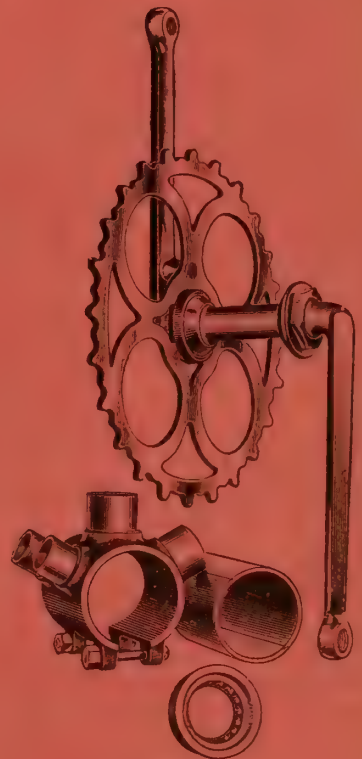
Drawn and Stamped Goods.

AS YOU WANT THEM.

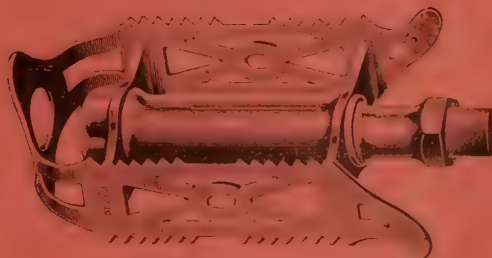
**HANGER HINGE JOINTS
FOR REGAS SPRING
FRAME-STAYS.**



No. 5



No. 4.



GENESEE.

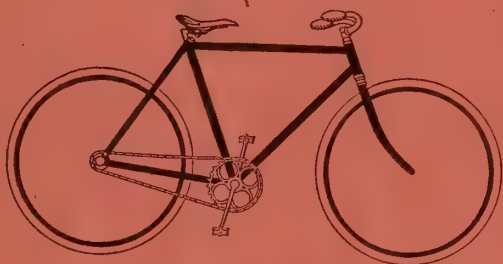
I can interest YOU if you want to make
your business pleasant and profitable.

DON'T WAIT !

WRITE FOR PARTICULARS CONCERNING

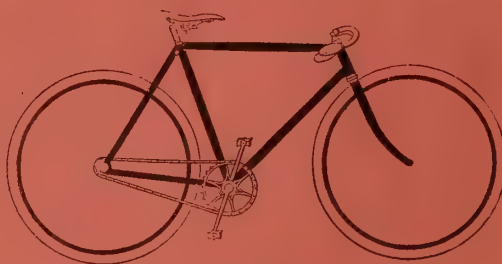
LeRoy Bicycles

MODEL No. 90.



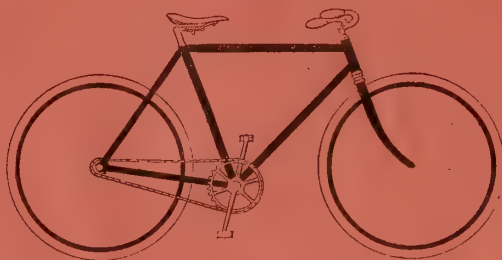
SPRING FRAME MODEL.
The latest success.

MODEL No. 60.

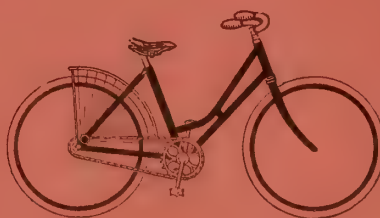
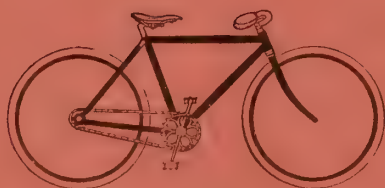


RACER MODEL.

MODEL No. 50.



ROADSTER MODEL.



JUVENILES.

JOHN R. KEIM, Bicycle Dept., Buffalo, New York.

COLE'S

Flexible and Adjustable Leather Toe Clip

ATTACH ON INSIDE OF
PEDAL PLATE.

PREVENTS THE CLIP
FROM TURNING
ON THE PEDAL.

Have your toe clips bothered
you with striking the ground
or scratching the shoe?

Specially adapted to
Long Cranks and
Low Frames.



NO PRESSURE ON
THE TOES.

The Flexible Leather
folds up (see dotted
lines).

G. W. COLE COMPANY,

Makers of the
Famous

3 in One

145 BROADWAY,
NEW YORK.

ALL JOBBERS HANDLE THEM.

SEND FOR CATALOG NO 10.

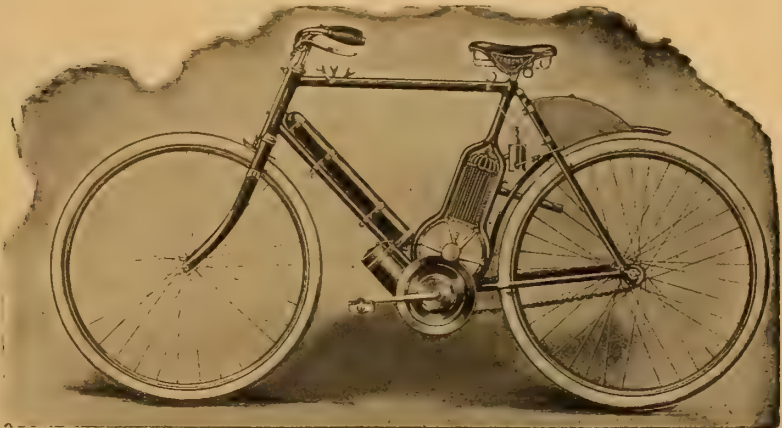
TO-DAY

is a mighty good day

in which to
apply for

The Royal Agency

Riders are beginning to push, pant and perspire and will soon
be in a frame of mind to be won over to the bicycle
that prevents such discomforts.

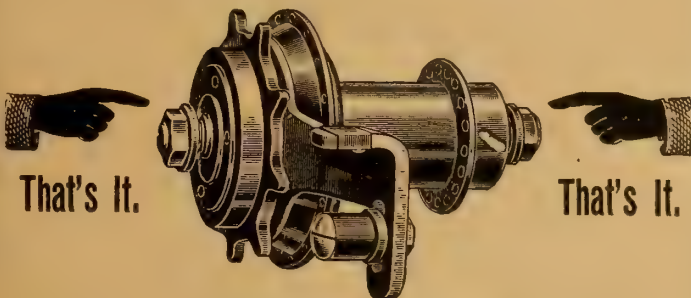


ROYAL MOTOR WORKS,

29-33 West 42d Street,

NEW YORK CITY.

THE COASTER BRAKE THAT
Proved Worthy of the Highest Award
AT THE PAN-AMERICAN EXPOSITION



THE UNIVERSAL.

OUGHT TO BE WORTHY
of the investigation of every thoughtful man
INTENT ON THE PURCHASE OF COASTER BRAKES.

PARTICULARS AND PRICES ON REQUEST.

UNIVERSAL COASTER BRAKE CO., Buffalo, New York.

IN CORBIN'S DUPLEX NEW DEPARTURE

IT IS
THE HAPPY COMBINATION

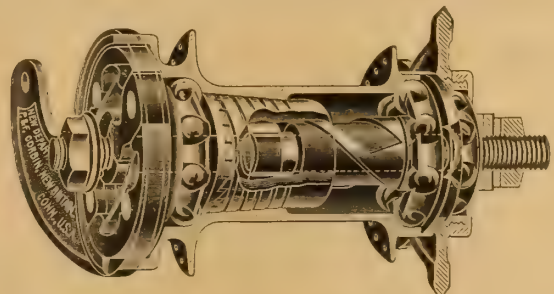
of coaster and brake that accounts for its emphatic success.
The brake is not less important than the coaster.

NOTE THE BRAKING MECHANISM.



IT NEVER SLIPS.

AND HERE IS HOW BOTH COASTER AND BRAKE ARE APPLIED.



FITS ANY WHEEL.

IMMEDIATE DELIVERIES. CATALOG ON REQUEST.

P. & F. CORBIN, New Britain, Conn.

P & F. CORBIN OF NEW YORK, 11-15 Murray Street.
PHILADELPHIA, 925 Market Street CHICAGO, 104-106 Lake Street.

THE BICYCLING WORLD
THAT PROVERB,

“Hold fast to that which is true,”

is coming home to many who
now acknowledge they were

“TOO QUICK ON THE TRIGGER.”

They are coming back to their “old love”—to the one coaster brake
which all the world knows to be true,

THE MORROW.

HERE IS ONE ILLUSTRATION:

ECLIPSE MANUFACTURING COMPANY,
ELMIRA, N. Y.

OLYMPIA, WASHINGTON,
March 14th, 1902.

GENTLEMEN:—We acknowledge we got off the track a short time ago and cancelled our order for Morrow Brakes. We take back all we said to the
— — — people as regards their hub.

We ordered a sample from them and it turned out as follows: The foreman of our Bicycle Department put it in a wheel and went out for a trial. On his return he said it was all right. We, therefore, ordered a quantity from our jobbers and cancelled our order for Morrows. A little later the writer had occasion to use the wheel, and when a *brake* was wanted he found he had none. Fortunately it was not a long bad hill, but instead a short one, and the landing was all right.

Upon taking the foreman to task, we were told that he found he had written his testimonial of the brake too soon, and that he had not tested it to see whether it had braking power or not. As a result, our former order for Morrows has been reinstated, as we find there is one brake that is *both a coaster and a BRAKE*, and that is the MORROW.

You are privileged to use this as you please.

Yours truly,

TALCOTT BROTHERS.

AND HERE'S ANOTHER:

THE ECLIPSE MANUFACTURING COMPANY,
ELMIRA, N. Y.

KNOXVILLE, TENN.,
March 12th, 1902.

GENTLEMEN:—We want you to write us your lowest prices to jobbers on your coaster brake. We are this year sending out 3500 catalogues over this territory, and we are the only exclusive bicycle jobbers in this territory.

The ——— Coaster Brake was highly recommended to us by responsible parties, and we have placed a cut of it in our catalogue, and also placed our order for twenty-five brakes for the first order; but we have today found that this brake will not come up to the standard and have cancelled the order.

Yours very truly,

“It is better to be sure than to be sorry.”

ECLIPSE MFG. COMPANY, Elmira, N. Y.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, April 3, 1902.

No. 1.

AFTER KEHEW

Injunction Obtained and he may Have to Explain Himself—Some Ugly Allegations.

After keeping at least a portion of the trade in a confused state of mind for some little time, the United Supply Co., of Boston, has finally been summoned to court and asked to explain itself.

The proceedings took the form of an application for the appointment of a receiver for the company and for an injunction tying the hands of George F. Kehew, its president, and requiring him to render an accounting. On allegations that Kehew had unwarrantedly conveyed the property of the company to Jesse B. Eccleston, of the Wm. Hengerer Co., Buffalo, N. Y., the complainants prayed also that such conveyance be declared void. Apart from this alleged transaction, there are ugly rumors of an arrangement between Kehew and an ex-employee of another Buffalo concern that may also be aired in court.

On Friday last the court issued the preliminary injunction asked for.

The complainant and moving party in the proceedings is Mary F. Jones, who, it is understood, is acting in the interest of the Pratt and Stetson estates, which has in chased the business of the Elastic Tip Co. It will be remembered that some eighteen months since George F. Kehew & Co. purchased the business of the Elastic Tip Co. and organized a new company called the United Supply Co., being a consolidation of both firms. It is understood that the stock and good will taken over from the Elastic Tip Co. were paid for in notes, which have matured but which have not been paid.

In October last Kehew announced that he had sold the business, good will, etc., to the Equitable Distributing Co., but since that time there has been so much backing and filling that none is able to say just what Kehew did or did not do.

The Jones complaint, however, if brought to trial should go far to clear the fog. It follows:

I. The plaintiff is a creditor of the defendant corporation, holding a note for \$1,097.08, signed by it, dated December 2, 1901, and payable on March 10, 1902.

II. The defendant, the United Supply Co., is a Maine corporation, engaged in the business of buying at wholesale bicycles, bicycle parts, fittings, supplies and materials, and selling the same at wholesale to retail dealers, and has its usual place of business at No. 190 High street, in said Boston.

III. At a meeting of said stockholders of said defendant corporation, held December 11, 1900, the defendant, George F. Kehew, was elected president, J. C. Patterson, of Brookline, Mass., was elected treasurer, and the said George F. Kehew, J. C. Patterson and Daniel S. Pratt, of said Brookline, were elected directors.

For over a year now, last past, the said J. C. Patterson has been confined to his house by sickness and has been unable to attend to his duties in connection with the business of said defendant corporation, and the said defendant, George F. Kehew, has assumed the sole management and control of the business of said defendant corporation and has assumed the sole management and control of all the finances of said corporation, and has had possession of the moneys received in the prosecution of said business.

(Continued on page 20.)

Eccleston Quits Hengerer.

J. B. Eccleston, manager of the William Hengerer Co., Buffalo, N. Y., has resigned his position with that company to embark in the manufacture of automobiles. The William Hengerer Co. is a Buffalo department store, which has maintained a bicycle assembly department for several years, low priced wheels being turned out, which have been sold mostly to the jobbing trade.

Walker on State of Trade.

"How's business?" said C. E. Walker, Eastern manager of the American Cycle Mfg. Co., when the time honored question was put to him. "Well, this one sales department has done more business than the seven departments did last year. That ought to speak for itself."

Sparks now Assigns.

A further echo in the affairs of the American Tire Co., of Toronto, as reported in last week's Bicycling World, is the assignment of E. M. Sparks, the president of the company.

JOBBER'S PLANS

New York Association to Separate Sheep From Goats—Quakers Want to Come in.

The New York State Association of Jobbers of Bicycle Supplies is now in full working order. The executive committee met at the Victoria Hotel, this city, on Tuesday of last week and put the finishing touches to the organization by adopting a constitution and bylaws.

The committee drafted and acted on a list that is likely to prove of far reaching effect and cause some eye-opening when it is made public—a list of those whom the association recognizes as jobbers, and who are therefore considered eligible to membership. Before it is given out the list will be submitted to and passed on by each member of the organization.

The meeting also turned up a surprise in the form of a joint application or request from a number of Pennsylvania jobbers, who asked that the association be so enlarged as to include them. They had made an effort to form a State organization of their own, but found themselves not numerically strong enough. The application was taken under advisement pending action.

Those present at the session included all members of the executive committee except C. L. Kelsey, who was detained by illness, viz.: President H. L. Hall, Vice-President A. E. Brion, Secretary Treasurer William Spalding and Committeeman Harris Parker.

The constitution and bylaws as adopted follow:

Constitution.

Article I. This organization shall be known by the title, New York State Association of Jobbers of Bicycle Supplies.

Article II. The objects of this association are the promotion of harmony and fraternal feeling among its members, the interchange of opinions, the correction of abuses of the trade, and the advancement of the bicycle and bicycle sundry business.

Article III. The members shall be limited to wholesalers of bicycles and bicycle supplies, doing business in the State of New

(Continued on page 20.)

EXPORTS STILL GOING UP

February Turned in an Increase of \$67,000
—Enormous Gains in Germany.

February held the pace in the matter of exports set by its predecessor. The month marked another substantial increase, \$67,000.

The gains were general throughout Europe, Germany in particular changing its attitude, its purchases jumping from \$15,540, in February, 1901, to \$80,300 in February of this year. France almost doubled its record. Apart from the Continent, the gains were inconsequential, Australia accounting for the largest increase, which was less than \$1,000.

Of the losses that in British North America was greatest, but is easily accounted for, Canada having come into its own, which own is a sadly shrunken one. Japan is the one unpleasant spot in the record.

The figures for the month and for the eight months of the fiscal year follow:

	February—		Eight months ending February.		
	Values.	Values.	Values.	Values.	Values.
	1901.	1902.	1900.	1901.	1902.
Exported to—					
United Kingdom.....	\$29,927	\$30,759	\$241,287	\$165,644	\$248,123
France	20,021	38,342	155,255	56,732	146,261
Germany	15,540	80,300	270,075	85,128	201,099
Other Europe.....	60,808	84,056	417,680	242,325	296,716
British North America.....	47,755	19,837	129,447	116,034	74,957
Central American States and					
British Honduras.....	1,003	163	2,241	3,500	3,569
Mexico	1,776	1,381	18,444	13,154	13,670
Santo Domingo.....	72	72	216	311	717
Cuba	311	1,845	128,419	10,286	11,886
Porto Rico*.....			1,796		
Other West Indies and Ber-					
muda	3,390	2,747	34,753	32,575	28,969
Argentina	1,204		129,078	23,263	7,680
Brazil	374	817	21,199	7,613	3,570
Colombia		30	5,881	320	682
Other South America.....	1,218	1,557	48,893	20,276	16,003
Chinese Empire.....	368	1,097	18,677	9,330	46,610
British East Indies.....	5,286	2,953	83,728	35,301	31,505
Hong Kong.....		1,310	5,455	7,227	3,026
Japan	21,098	16,163	143,831	139,590	111,099
British Australasia.....	14,735	15,538	160,386	134,987	136,675
Hawaii*.....			27,429		
Philippine Islands.....	5,432	1,965	11,839	56,179	13,062
Other Asia and Oceania.....	3,593	2,530	34,887	18,893	17,372
Africa	6,981	4,568	47,561	75,054	75,774
Other countries.....			89	140	117
Total	\$240,892	\$308,030	\$2,138,546	\$1,253,862	\$1,489,142

*No longer included in statistics.

Revival Aroused the Cop.

E. J. Willis, of the Willis Park Row Bicycle Co., cites a little incident that illustrates the boomish proportions of the metropolitan trade during the past two weeks.

Willis's place has been so crowded during the day that the shipping of the goods has been a matter that has been attended to at night. The wagons in front of the store and the piles of goods on the sidewalk finally aroused the policeman on the beat.

"Where are you moving?" he finally asked, and added, "I thought this was a good stand."

Miami Makes Answer.

In the case of Oscar C. Selbach against the Miami Cycle and Mfg. Co., the defendants have filed an answer to the plaintiff's petition.

They say they believed they had obtained patents for the exclusive manufacture and sale of bottom brackets in Germany and France by the representatives of Selbach, but deny that in October, 1896, or at any other time they employed him as general European agent, and especially for Germany and France, or that they agreed to pay his expenses and reasonable compensation.

No agreement was made to pay 25 per cent for the sale of bottom brackets or the recovery of damages by litigation or compromise. And, further, that the Bielefelder Maschinenfabrik Co. paid to Selbach \$5,000 for the defendant, but that Selbach procured \$2,500 in addition to the compensation to which he was entitled and which had been paid him, making a total of \$3,125.

The defendants admit that Selbach trav-

WILL GIVE MARBLE CLOCKS

How the C. W. A. Proposes to get Members
—Results of Annual Meeting.

Like the League of American Wheelmen, its compatriot across the border, the Canadian Wheelmen's Association is "not what it used to be."

The exact difference between the organization as it was and as it is was made apparent at its twentieth annual meeting in Toronto on Friday last. The membership was then reported as 1,160, divided as follows: Vancouver, 41; Winnipeg, 5; District No. 3 (Western Ontario), 54; Toronto, 600; District No. 5 (Eastern Ontario), 84; Montreal, 248. Total, Quebec Province, 285; St. John, N. B., 22; honorary, 2; unattached, 67.

The total receipts for the past year were \$1,252.44, and the expenditures \$1,150.07, leaving a balance on hand of \$102.37. The revenue from membership fees amounted to \$912. The following figures show the deficits since 1898: 1898, \$363.07; 1899, \$1,092.62; 1900, \$775.00; 1901, \$826.36; 1902, \$132.63.

Despite these facts and figures, the secretary treasurer, H. B. Howson, who holds over, reported that: "The year just closed has been one of the most successful for many years for the C. W. A. from a financial point of view." He explained the situation in this wise: "Ever since the contest for the reduction of rates for carrying bicycles on the railroads, the association has been staggering under a debt of nearly \$1,000; and owing to the heavy expense in the management of the association no reduction seemed possible. The present executive, however, decided upon a radical change, and we can report six-tenths of the debt paid off, with the almost certainty of the entire amount being wiped out this spring, and a surplus created which can be used advantageously in securing privileges for our members, and tangibly taking hold of the question of 'Good Roads,' which has been one of our loudest battle cries from the inception of the association.

The organization of local clubs is to be made a feature of the association's future work. The plans comprise giving organizers a cash commission of 25 per cent on the \$1 club membership fee, and a series of premiums to the organizers who form clubs varying in size from forty members to two hundred. The premiums consist of "small French marble clocks" and "a high grade Cleveland bicycle."

Officers were elected as follows:

President, A. F. Webster, Toronto; vice-president, O. L. Spencer, Vancouver, B. C.; chairman membership committee, Louis Rubenstein, Montreal; chairman rights and privileges committee, Dr. Mark G. MacMillan, Ottawa; chairman rules and regulation committee, George A. Kingston, Toronto; chairman roads and touring committee, G. S. Pearcey, Toronto; chairman transportation committee, R. J. Wilson, Oshawa; chairman Dominion racing board, George W. Ayling.

eled through France and rendered slight services with Darracq & Co., for which he presented an expense account of \$512. They received \$6,300 and paid Selbach 25 per cent of this amount and his expenses. Denial is also made that Selbach would have been entitled to \$6,250.

Further denial is made of every bearing of any contracts with the Alder Fahrwerke, of Frankford-on-the-Main; the Naemaschinen fabrick und Eisengiesserei, of Dresden, and Adam Opel, in Russelsheim, the three most prominent manufacturers in Germany. A general denial is entered to other claims of Selbach, and the defendant asks for a dismissal of the suit. Thirty-six interrogatories are attached to the answer.

RUBBER GOODS ROW

Squall Brewing but it may Blow Over— Points in Dispute.

At the annual meeting to be held in Jersey City on April 10 there promises to be a fight for control between some of the large stockholders and the directors. The present management proposes certain changes in the certificate of incorporation and the by-laws, one of which changes allows the directors to increase their number at will, and thereby, the opposition say, perpetuate their control. Another amendment withdraws from the stockholders and confers on the directors the power to amend the by-laws.

Talbot J. Taylor & Co. are collecting proxies to oppose the changes. A representative of that firm said on Tuesday:

"The amendments give to the Board of Directors too much power. We have asked for proxies, and the responses we have received to-day make it absolutely certain we will control. There were transactions between directors of the company involving millions of dollars, which had to do with the sale of their property to the company, and we have vainly been endeavoring to find out about these transactions. We will now be able to find out about them and to put in a new Board of Directors and defeat the plan for perpetuating the old board in office indefinitely."

William A. Towner, secretary of the company, said that the action of Talbot J. Taylor & Co. was a surprise to the management. He said further:

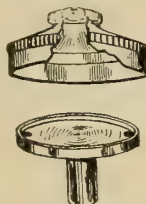
"We will see the firm, and I think they will take back what they have said. Taylor & Co. have been large stockholders of the company, and it has been intended that they should get representation on the board at the annual meeting. The management has had no idea of railroading anything through. The Listing Committee of the New York Stock Exchange has gone over the whole thing and approved the proposed changes. That doesn't look like any nigger in the fence, does it? Everything that they object to is, I understand, usual in the charters of the big industrial corporations such as the United States Steel Corporation and others, which were drawn by Francis Lynde Stetson, who is our counsel, and who prepared the proposed amendments. The amendments really propose to take away from the Board of Directors powers that they have had. The present certificate of incorporation permits the directors 'to transfer or otherwise dispose of any or all of the property or franchises of the corporation' without restriction; but under the amended certificate it will be necessary to gain the consent of two-thirds of the stockholders at a meeting called for the purpose. Under the present certificate it has been practically impossible to use the collateral owned by the company for the purpose of raising loans, as the certificate

required the 'consent and approval of the holders of two-thirds of the preferred shares.' Under the amended certificate the directors will be permitted to borrow up to the amount of \$2,000,000 by using collateral of the company. This would release a lot of collateral that has been tied up and could not be availed of by the company."

Columbia's Two-piece Burner.

Interest in the new burner used on the Columbia lamp, made by the Hine-Watt Mfg. Co., Chicago, has been sharpened by the description of the lamp given in The Bicycling World of last week. An inspection in detail of the burner bears out the claims made for it, as is well shown in the enlarged illustration published herewith.

As will be noted, the burner is made in two parts, the lower having a cupped upper end, giving a large enclosed space, allowing the largest possible mixture of air with gas. Over this snaps the piece containing the pierced lava tip. From this construction it can be clearly realized that if there is one thing more than another pre-eminent in the



device, it is that any deposit that may come from faulty carbide can be disposed of at once.

There will be no need to hunt around for or carry a fine wire, as it is obvious that anything with the semblance of a point can be used to clear out the cup and its two air passages, as well as the hole through the lava tip.

It is just such attention as this to details, small in size but large in importance, that mark the equal differences between products of the same kind and stand for success and extended popularity.

Death of a Utica Inventor.

Frank J. Wadman, of the Wadman Cycle Co., Utica, N. Y., died on Tuesday of last week, while on a visit with friends in Rochester, where he had formerly lived. Mr. Wadman was a printer in his earlier days, and while living in Syracuse became the patentee of a lever driven, chainless bicycle, which was made in a small way by the Utica concern.

French Buys out Three Rivals.

The old and well known retail concern, Howard A. French & Co., of Baltimore, Md., have purchased the bicycle stock of Frank I. Clark & Co., Thomas E. Goode and the Mutoscope Co.

Willis Takes on the Marsh.

The Willis Park Row Bicycle Company, of this city, have been appointed metropolitan distributing agents for Marsh motor bicycles. The deal carried with it an exchange of a fat order for some fertile territory.

CANADIAN TRUST CALLED

Stockholder Asks Court to Compel Directors to Explain and Disgorge.

A writ against the directors of the Canada Cycle and Motor Co. was caused to be issued last week by George W. Bedell, of the Bedell Furniture Co., Toronto. The defendants are Senator George A. Cox, Senator Lyman M. Jones, Warren Y. Soper, of Ottawa; E. B. Ryckman, of Toronto; and the executors of the estate of the late W. E. H. Massey.

The plaintiff asks for a declaration that the defendants were the promoters of the company and its agents in all matters relating to its organization, and the flotation of its stock, and to the acquisition by it of the bicycle business of the Massey-Harris Co., H. A. Lozier & Co., the Welland Vale Co., the Gould Bicycle Co., and the Gendron Mfg. Co.

Discovery of the profits made by the defendants and each of them as such promoters and agents is sought.

It is asked to have it ordered that the defendants account and pay over to the company the sum of \$342,000, paid to them in cash in excess of the price paid by them for the businesses above mentioned, and all other profits made by them; and that they account for \$3,000,000 of the common stock, alleged to have been issued to them without any consideration therefor.

The Owners of the Original Patent.

The little known fact that the first American patent on a coaster brake (No. 418,142) was granted in December, 1889, to W. A. Hance and D. C. Stover, of Freeport, Ill., which The Bicycling World remarked last week, has called out a fact equally as interesting and which is not generally known, to wit: the Hance-Stover patent is now owned by the Eclipse Mfg. Co., makers of the Morrow.

Van Arsdale's Sales of Mitchells.

Henry Van Arsdale, the New York representative of the Wisconsin Wheel Works, has removed from 20 Broad street to 7 and 9 Warren street, and is now in the thick of the downtown cycle district. Van Arsdale has become a dyed-in-the-wool motorcycle enthusiast, and that his enthusiasm is carrying others with it his sales testify. During February he sold 38 Mitchell motor bicycles, during March 66 of them, and, what is more, made deliveries.

Keim Handle-Bars Coming.

The already unusually attractive and complete line of parts manufactured by John R. Keim will be further enhanced by the addition of a line of handle-bars, which are now almost ready for the market. That these bars will be up to the Keim standard of quality is assured, than which nothing better could be said about them.



IT WAS A
National
LIKE THIS

THAT FENN RODE
WHEN HE MADE THE
5 MILE WORLD'S UN-
PACED COMPETITION
RECORD, 10-33 2-5. ::



WE HAVE
NUMEROUS "GOOD THINGS"
FOR 1902.

National Cycle Mfg. Co.
BAY CITY, MICH.

Your machine, whether Bicycle or Automobile,
equipped with

FISK TIRES

will prove more satisfactory and easier running,
because they are durable and resilient.

WHY NOT HAVE THE BEST WHEN YOU HAVE BUT TO ASK FOR THEM?

FISK RUBBER COMPANY, Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

SYRACUSE,
423 So. Clinton St.

BUFFALO

28 W. Genesee St.

DETROIT,

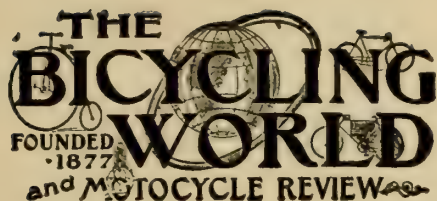
252 Jefferson Ave.

CHICAGO,

54 State St.

SAN FRANCISCO,

114 Second St.



In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] **\$2.00**
Single Copies [Postage Paid] . . . **10 Cents**
Foreign Subscription **\$3.00**

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, APRIL 3, 1902.

Speeding the Good Word.

Let these big typed headings, selected at random from widely scattered papers brought by a single mail, convey their own stories:

"Big Bicycle Boom"—Syracuse Herald.

"New Era of Cycling"—Indianapolis Sentinel.

"Revival of Wheel Interest"—Chicago Inter Ocean.

"Big Revival in Cycling"—Philadelphia Press.

"Cycling Again Coming to the Front"—Providence Telegram.

Why Price-Cutters Score.

If, in the final summing up of the season's business, the reputable dealers of the metropolitan district find that the lion's share of the profits fell to the cut price houses, let the reputable ones kick themselves and forever hold their peace. They will have none to blame but themselves.

While all have been "rushed to death" by

the semi-boom of the last two weeks, none but the cut price people can be said to be doing anything to merit the continuance, or spending one penny to increase or keep alive the spirit of the times.

It is an unpleasant but irrefutable statement that, with one exception, the only people in the business in New-York who are spending one cent in advertising bicycles are five price cutters, who, of course, herald cheap bicycles, cheap tires and everything else that is cheap. The solitary exception is a great big manufacturer who intermittently prints an ad. so small that it requires a microscope to find it. For all the good that it may do, the interests of the high grade bicycle might as well be unrepresented as misrepresented.

We hold no brief for the New York daily papers. But we do know this: They have followed The Bicycling World, and have "filled the air" and the public mind with the "revival of cycling." We have a fairly general run of the press of the country, and we know that much that has appeared and is appearing in print elsewhere is merely a reproduction or adaptation of what the New York papers have said. In this way, as in so many other ways, New York is influencing the country. The bicycle interests generally are thus served. The iron is thus heated, but though its iron is cherry red, the cycle trade fears or refuses to strike. It appears willing to accept all favors, but to take no chances nor give anything in return. Each maker or dealer appears to fancy that his bicycles require no publicity. Cracker manufacturers thought the same thing until one of their number dared to "splurge" and thereby coined a fortune.

To the man full of cycling enthusiasm the situation is aggravating. Every condition is ripe for a rich reaping. It suggests a snowball poised on the hilltop. A good push will move the ball, which, once started, cannot but gather force and size with every revolution. It suggests a huge pendulum—a huge scale trembling at its dead centre. A movement either way will tip its balance and decide the direction in which it will move.

We repeat what we said last week: What the cycle trade needs, and needs now, is some big, bold advertising. Fifty inches now will be better than five hundred inches two months hence. No mincing, picayune advertising will serve. The big, bold ad. will "catch" the public and rivet the convictions half formed by editorial or reportorial expressions. It will start the snowball, swing the pendulum, tip the scales, as the

cycle trade would have them started, swung and tipped.

It was publicity and enthusiasm that "made" the bicycle before. It is publicity and enthusiasm that will "make" it again, and if ever there was a time to enthuse and to court and pay for publicity now's the time.

When price cutters, necessarily working on slender margins, can afford to pay for it, there is small excuse for the high grade trade not doing so.

Back to First Principles.

Probably few people have noticed how steadily the small hub is gaining ground.

The excessively large hub is quite out of favor, of course. It disappeared several years ago, along with big tubing, enormous sprocket wheels, high frames, etc., but, being succeeded by hubs of a moderate size, little attention has been given to them.

Among the 1902 machines quite a number of hubs are to be seen that are almost exact duplicates, as far as size is concerned, of those in vogue prior to 1896 or 1895.

A much greater number are slightly larger than these, but still considerably smaller than the "barrel hub," as the new style was generally termed. Frequently the ball cases have been reduced in diameter, but, almost without exception, the centres suggest the "spindle" hubs of the early '90s.

Outside of the ball cases, which should be large enough to hold a good sized ball, there is really no reason why hubs should not be smaller.

It was almost entirely a matter of looks in the first place. With large tubing the small hubs appeared very odd. The increase in diameter brought the two into harmony, and the change was accepted almost without opposition.

Nevertheless, it is a singular reversion to first principles that we are coming to. The small hub is but one of a number of retrograde steps, and yet who is there that will assert that the change is really a backward

Contradictory Tendencies.

Some half dozen years ago, when the flush joint wave swept over the cycling horizon, it was confined almost entirely to this country.

Abroad, and especially in Great Britain, makers held resolutely aloof from the movement. Outside joints had always been used on the safety bicycle, they said, and there was no reason whatever why they should make a change at that late day. So they

pursued the even tenor of their way, caring, or seeming to care, little what other manufacturers did.

But the movement progressed steadily here, and the number of concerns which held aloof—at first considerable—gradually dwindled. Outside joints were still to be found on a few makes, but they were almost swallowed up in the great mass of inside connections.

Just when the matter had about dropped out of sight, however, and it seemed as if the flush joint here and the outside joint abroad would rule indefinitely, indications of a change became visible.

First the English makers started to copy the flush joint. Several firms of great prominence adopted it. Of course, they claimed it as their own, utterly ignoring the fact that it was in general use here, and asserting it to be a great improvement over the previous method.

Even more surprising, however, is the fact that there are signs of a return to outside joints among our own makers.

It is so far confined to one or two concerns, and it may or may not spread. But it is true, nevertheless, that at least one maker uses drop forged outside joints, and points out that they are more expensive, and therefore better, than the other sort.

"You know," one salesman for this make of machine confided to us, "forged connections were abandoned because they cost more than did inside joints made of stampings."

He did not attempt to show how his joints were superior to those of his competitors. That they were more costly seemed to him to be sufficient reason for the assertion that they were better.

Doing the Right Thing.

While the trade of New-York is apparently content that the public at large should gain the idea that a lot of price cutters and dealers in bargain counter bicycles are the only representatives of the cycle industry remaining in the metropolis, or, at any rate, the only ones who can afford to advertise, retailers elsewhere are not sharing the nig-gardly spirit.

The advertising columns of many of the papers in the smaller cities and towns bear witness that local tradesmen have siezed the glorious opportunity pointed out by The Bicycling World, and are making the most of it. In some instances it is the result of careful planning.

Syracuse, N. Y., is an example of the sort.

The Herald of that city fairly glows with the "revival of cycling," and the Syracuse public is bound to be impressed with the fact that the "revival" is full of substance and is not merely noise, since "The Herald's" headings and statements are borne out by its advertising pages. Three columns are devoted to the "revival," the recital being flanked on either side by four inch double column ads. of the leading dealers in Syracuse. The effect simply carries conviction with it, and, as it is to be followed up, results are almost beyond doubt.

In the engineering of the plan H. E. Maslin, president of the Stearns Bicycle Agency, was prominent. He took the trouble to see the other dealers of the city, and had no trouble in obtaining their support. The result was a shot that must have hit the bull's eye of Syracuse squarely in the centre. Mr. Maslin, however, is not resting content, and is intent on spreading the gospel as it should be spread.

"We are sending a copy of this page from the Herald to all our agents, and suggesting their working up a revival in cycling along the same lines in their locality," he writes.

"The articles The Bicycling World has been publishing toward the same end have been very much to the point," he adds, "and we believe that a goodly share of the enthusiasm which apparently exists among the trade is due to your constant efforts along those lines. It might not be amiss for you to call the attention of agents and dealers to the plan which has been pursued in Syracuse."

The Syracuse plan is the right plan. To the man not bereft of enthusiasm and commercial reasoning no second urging should be required.

Expensive Carelessness.

Those who have ever had experience in selling new lines of manufactured goods know that the hardest part of the entire matter is to educate buyers into the correct use and application of such goods as are sold, particularly if these goods are sold as parts. Buyers are prone to blame the makers if anything goes wrong, and look with suspicion upon letters coming from the makers tending to place that blame in the right direction.

While this is the general rule, not always is it a case that the buyer has no just grounds for complaint, nor reason to feel suspicious that there is a dodging of the

point at issue in an attempt to uphold a reputation for good goods.

This point of view was recently brought to our attention in the purchase of a carburetter from a well known concern. From the reputation and experience of the maker there was every right to believe that the carburetter was ready to apply without specific inspection of its internal parts.

Perhaps from curiosity, perhaps from some other cause—the specific reason has nothing to do with the case—the carburetter was taken apart before applying it, and with good fortune, as matters turned out.

The float used in the supply chamber to regulate the level of gasoline was found to be wet with diluted acid used in soldering it together to make it air and fluid tight, and the surfaces were covered with a hardened deposit from this same source. This one item might have been overlooked, as perhaps happening through some peculiar, one-time oversight, but in taking apart the balance of the device, the gas chamber and the throttle chamber, the former was found to have some of that same green deposit from soldering acids, while the latter was thickly coated with a fine, white powder.

It is not a far cry to suppose that some one not familiar with the theories of carburetters might have received that identical device and applied it without inspection; certainly he would have been warranted in so doing. Had this reasonable supposition been true there need be no stretch of the imagination to picture the results, or, rather, the lack of results, and a consequent condemning of probably everything connected, motor and all.

The case here related is not called up to adorn a tale, but to point a moral on the needs of makers of parts to provide the most thorough and systematic methods of inspection. We appreciate that the demands upon those who can deliver goods are at present almost abnormal and that manufacturers are doing much to relieve matters. Under these conditions it increases their difficulties, but well paid inspection will yield returns when the time of greater competition rolls round.

Under these future conditions there will come better understanding of needs, as education will advance along with them, and even a case like the above will not do the harm that it is at present pregnant with. The needs in the case are apparent, and should be looked to with an eye jealous for the future success of the individual and the industry as a whole.



MODEL 74 PRICE \$30.00

Orient Bicycles

KNOWN THE WIDE WORLD OVER.

WRITE FOR HANDSOME NEW CATALOGUE

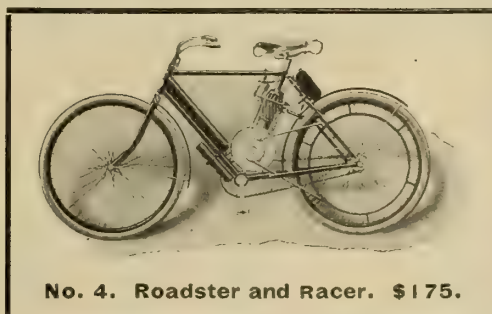
APPLY FOR AGENCY

WALTHAM MFG. COMPANY, WALTHAM, MASS.

“TO HAVE AND TO HOLD”

The AGENCY for the **AUTO-BI** is to POSSESS

The
KEY
to
Success.



No. 4. Roadster and Racer. \$175.

3 Models.

No. 3—1½ H. P., = \$150

No. 4—2½ H. P., = \$175

No. 5—2½ H. P., = \$200

Have you closed for it? If not, SEND in your application. “DO IT NOW,” tomorrow may be too late. TERRITORY IS BEING RAPIDLY TAKEN.

THE LARGEST DISCOUNTS TO GOOD AGENTS.

We refer all inquiries to you.

WE PROTECT YOU.

LIBERAL - SUBSTANTIAL - GUARANTEE.

WE USE E. R. THOMAS WORLD'S RECORD MOTORS—THE BEST.

Ask for description of our new and attractive AUTOMOBILE, the BUFFALO, SR.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, 1200 Niagara Street, Buffalo, N. Y.

KICKING!

We all admire a kicker if he kicks for cause, but would you

Kick a Thousand Times for Nothing?

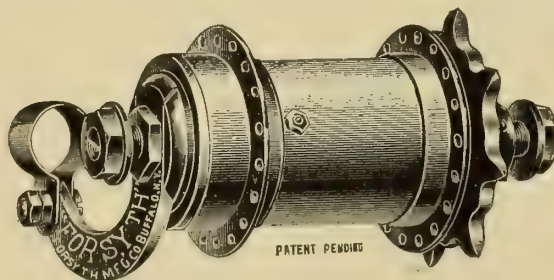
Then avoid it and ride a CINCH COASTER BRAKE which is self-releasing—
no spring to overcome in braking, either—perfectly
noiseless, and oh! how it coasts.

RIGGS-SPENCER CO., Manufacturers, Rochester, N. Y.

IT IS THE BETTER PART OF
WISDOM TO SELL

The Forsyth

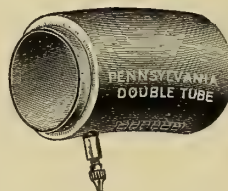
now than to have to sell it later as
a replacement of the coaster brake
you may have sold previously.



BE WISE!

FORSYTH MFG. CO., BUFFALO, N. Y.

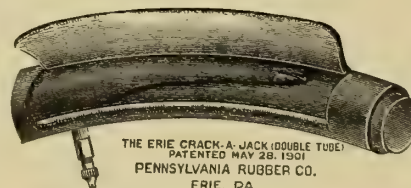
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK DOUBLE TUBE
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**

ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO
PHILADELPHIA

BOSTON



ONE LEVER OR MORE

Discussion Leads to a Test With Interesting but Inconclusive Results.

There recently appeared in The Bicycling World reference to combining some of the various operations in the control of motor bicycles and working them from one of the grips. A general description only was given, as the designer at work on the device withheld permission to publish details. In the mean time, as is only natural where so seemingly a desirable feature would appeal to progressive designers, the idea has been worked out by one English maker, and is to be applied to his machine. Another maker jumps into the breach and in his advertising argues against the single lever control and for the control worked by various levers.

The result of this difference of opinion and the views expressed by others who are supposed to have some warrant toward judging in the matter, has been a test on the road to determine the following points in controversy:

Some of the opponents to single lever control claimed that it means waste of gasoline and the best means of overheating the engine. Another motor bicycle critic, while not going to these extremes, confesses that he was under the impression that there were disadvantages, from an expert motor cyclist's point of view, in regard to this lever, by reason of its automatically regulating the supply of gas and advancing the spark, so that the rider could not adjust his throttle and time his ignition with that degree of nicety which long experience has taught us tended to good driving, economy of fuel, and keeping the engine cool. He considered, however, that even if the automaticity of these operations was disadvantageous to the expert, the simplicity of operation made the invention highly meritorious for the purpose of the beginners, who this year form perhaps ninety-nine out of every hundred motor bicyclists.

Hearing that the maker of the single control machine had tried two of his machines, one with this latest device and the other with the old multiplicity of levers, over a thirty-five mile course and found a saving in favor of the former, this latter critic arranged a contest between the two manufacturers under discussion. Both of them equip their bicycles with the same make of motor.

The contest took place over a fifty mile course, and at the finish the amount of gasoline used in each machine was measured, and it was found that, while the manufacturer of the single lever machine weighed 26½ pounds more than the manufacturer of the machine having the four levers, the first named used only three fluid ounces more gasoline.

This would seem to prove that the single control machine does not waste fuel, but the

critic does not take this as conclusive evidence, and will himself make a trial and ride the machine hard and far in the effort to make it overheat under fair and unfair conditions.

"After studying the subject with a view to reconcile the results of this first test with his own preconceived ideas against its principle, he believes that there is more in the action of this single control than meets the eye at the first glance. The automaticity is nicely graduated, so that when the lever is pulled clear back the exhaust valve is open and the ignition is interrupted.

As the lever is pushed forward the valve is closed; further forward the throttle is opened a little and the current is switched on; thence the throttle is opened further, and the spark is advanced, simultaneously, until



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

the throttle is fully open, and beyond that the spark is further advanced.

What is not generally understood is that the spark can be advanced after the throttle is fully opened, so that at top speed no more gas is being consumed per revolution than at three-quarter speed. Failure to grasp this has been the cause of most of the criticism.

She Blames the Saddle.

"Why don't you ride more?" he asked her, the "her" being his wife.

"Why? Because sitting, or trying to sit, on such a saddle is no pleasure. If bicycle manufacturers are trying to account for the decrease of women riders, tell them to take the saddle into their reckonings. I've heard any number of women cyclists complain of their saddles, and say they'd ride again if they could find a comfortable one.

"What's the matter with the present saddles? They are no better than the old ones. Women always complained of them. I've heard more than one of them tell how she had tucked up her petticoats and made a cushion of them.

"What sort of a saddle do they want? None of those I've ever seen were broad enough or pliable enough. Why can't they make an upholstered one?"

WHAT McDUFFIE DOES

Sells no Wheels and Depends on Tire Repair Only—Magnitude of his Trade.

There is a lot of originality in the methods employed by one New England tradesman. By looking after a single branch of the bicycle business—that of repairing—and ignoring the selling end altogether, he has succeeded in building up a trade that is not much short of phenomenal.

The tradesman in question is E. H. McDuffee, of Cambridge, Mass. Tire repairing is his specialty, and by applying to it the methods referred to he has built up a business the extent of which may be imagined when it is said that he claims to have repaired no less than 21,000 tires last year. This was, of course, in addition to his other repair work.

McDuffee claims to be the first man in the world to give the vulcanizing treatment to pneumatic tires. He did this when he was in the repair department of the Boston Woven Hose and Rubber Co. Previous to 1893 the only way in which a tire could be mended was to plug it. Mr. McDuffee was in charge of the repair department late in the year 1893. This concern was the first to use the system of vulcanizing, and McDuffee was the first to do the work.

When he started in business for himself McDuffee devoted all his efforts to the repairing of tires, not caring to handle a general repair business. Last year, however, he received so many requests to work on other lines of repairing that he was actually forced to take it up. Now he does a great deal of wheel repairing, though this is never allowed to interfere with his tire work.

The enormous extent of his business can best be shown by a few figures. Last season McDuffee's shop repaired about 21,000 tires. He has handled as high as 175 in one day, while the average for the season was upward of 100 a day. McDuffee knows that in these days of close competition it is not always easy to hold such a large trade. He determined on an expensive move.

Following out the idea that an \$18 a week man could do better work than a \$12 man, he decided that he would have the best workmen that he could get, and pay them accordingly. In this manner he has established and maintained the highest quality of work, with the result that he has not only held his old customers, but has made many new ones.

In addition to the tire repairing and general repair work, McDuffee's shop is fitted to attach solid tires to all kinds of vehicles, from baby carriages to the heaviest wagons. A specialty is made of work on automobile tires.

One branch of bicycle work McDuffee does not touch—namely, the selling of wheels. He finds that he can give his customers better satisfaction by applying himself entirely to repairing, and especially to tire repairing, than he could if he took the time to sell wheels. He keeps a team, which calls for and delivers work in all parts of the city and nearby places.

AFTER KEHEW.

(Continued from page 11.)

IV. The plaintiff is informed and believes that said defendant, George F. Kehew, refuses to allow any of the stockholders or directors of said corporation to take any part in the management or control of the business carried on by it, and refuses to allow them to have access to the books or merchandise of the said corporation or to examine the same, and refuses to render an account to the directors or to the stockholders of the said corporation of the business carried on by it, or of the receipts and disbursements or of stock on hand in its possession.

V. The plaintiff is informed and believes that the said defendant, George F. Kehew, is improperly conducting the business of the said corporation; that the said defendant corporation has ceased to do business as a growing concern, having sold out its right to do business and goodwill to other parties; that the said defendant, George F. Kehew, is closing up and liquidating the business of said corporation, and in such liquidation is appropriating money received in the conduct of said business to his own uses without properly accounting for the same on the books of said corporation, and now claims to be a creditor to a large amount that has been and is now making entries upon the books of the said corporation, showing such indebtedness, although statements rendered heretofore by him show no indebtedness to the said defendant, George F. Kehew; that the said defendant, George F. Kehew, is disposing of the stock and merchandise of said defendant corporation at prices less than was paid for the same, and at prices less than can be received for the same in the proper management of said business; is dissipating the assets of said corporation, and is not applying the proceeds received from the sale of the stock and merchandise owned by the said corporation to the debts of the corporation, but is directing and appropriating the same to his own personal uses; and as the plaintiff is informed and believes, has planned and intends to remove said assets under his control from the State of Massachusetts and beyond the reach of the creditors of the corporation; and unless enjoined by this court the plaintiff believes that the said defendant, George F. Kehew, will entirely dispose of the assets and property of the said defendant corporation, and that the claim of the plaintiff and those of other creditors will not be paid.

VI. The plaintiff is informed and believes that the assets of said defendant corporation consist mainly of bicycles, bicycle fittings, supplies bicycle tubing, tools, parts, etc., and book accounts; that most of said assets, excepting said book accounts, are now attached and in the possession of the sheriff for Suffolk County under a writ issued by this court; that the said defendant, George F. Kehew; that the plaintiff believes that unexecuted a bill of sale of said merchandise to other parties, and that, apart from said merchandise and possible equities, the assets of the defendant corporation, as the plaintiff is informed and believes, consists of said book accounts, as to which the said defendant, George F. Kehew, has exclusive knowledge and as to which no accurate knowledge is obtainable from him, and of cash belonging to the company which is in the possession of said defendant, George F. Kehew; that the plaintiff believes that unless the relief prayed for herein be granted the assets of said defendant corporation will be removed from the reach of the creditors of said corporation, and that the proceeds received therefrom will not be applied to the claims of the creditors pro rata; wherefore the plaintiff prays that:

(1) That the defendant, George F. Kehew,

be enjoined until further order of the court from in any manner intermeddling with any of the assets, books of account, property and evidences of title belonging to said defendant corporation, or taking the same or any part thereof for his own use or making any transfers, sales, conveyances, incumbrances or disposing of the same or any part thereof except to deliver the same to a receiver appointed by this court.

(2) That this court appoint some suitable and proper person as receiver to take possession of the assets, books of account, property, evidences of title and goodwill of said defendant corporation, collect the rents due said corporation and its assets, evidences of title and goodwill, and dispose of the same as the court may direct; and that the defendant, George F. Kehew, and the officers of the defendant corporation be directed to deliver to such receiver forthwith all the assets, books of account, property, evidences of title of said defendant corporation.

(3) For such other and further relief as the court may deem just and proper.

Bill of complaint filed March 27, 1902.

Amendment to bill of complaint allowed March 28, 1902. In the amendment Jesse B. Eccleston, of Buffalo, N. Y., was added as a party defendant and to paragraph sixth the following was added:

"The plaintiff is informed that on or about the 15th day of February, 1902, the defendant, George F. Kehew, acting as president of the defendant corporation, executed a bill of sale of all the property of said corporation to the defendant, Jesse B. Eccleston, which bill of sale the plaintiff is informed and believes was made by the said defendant, George F. Kehew, in behalf of the defendant corporation without any authority, and the plaintiff believes that said bill of sale was without any consideration and is wholly null and void.

"Wherefore plaintiff prays that the bill of sale given by the defendant corporation to the defendant, Jesse B. Eccleston, be declared null and void."

Opening in Paraguay.

Bicycles are being introduced here in considerable numbers, owing to the fact that the streets in the city are being paved and some of the suburban thoroughfares placed in good order, writes Consul Ruffin from Asuncion, Paraguay. This is a new market for bicycles, and those which are particularly desired should be from 65 to 70 centimeters (25.6 to 27.5 inches) in diameter, weighing 16 to 18 kilograms (35.6 to 39.6 pounds). The cost should be from \$16 to \$18. In order to introduce the wheel here, three or four samples should be sent. The importation of bicycles is free this year, but it is likely that next year a duty will be placed thereon. Carriages, also, are permitted to come in free. Most of the bicycles now in use have come from England and Germany.

'Boom Strikes Persons Saddle.

"I wrote you one day too soon," said C. A. Persons, the head of the Persons Mfg. Co., of Worcester, when he met a *Bicycling World* man on Monday last. "As your paper stated last week, we received orders for 600 saddles on that preceding Saturday, for 1,265 on the following Monday—the day I wrote you. But Tuesday was the real record breaker. On that day we booked orders for 2,486 saddles, and they have since been coming in at the rate of from 300 to 800 per day. The *Bicycling World* certainly hit it right when it said that the hammock type of saddle is the saddle of the year."

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

JOBBER'S PLANS

(Continued from page 11.)

York and in cities in States contiguous to the State of New York.

Article IV. Each firm doing business shall constitute a single membership and be entitled to one vote.

Bylaws.

Article I.—Section 1. The officers shall consist of a president, vice-president, secretary treasurer and two directors, who shall constitute the executive committee, three of whom shall constitute a quorum.

Sec. 2. The resident city of the secretary treasurer shall be considered the home of the association.

Sec. 3. The officers shall be elected annually by ballot by a majority vote at the annual meeting, and shall hold office until their successors are chosen. Seven members from different firms shall constitute a quorum.

Sec. 4. Vacancies in any office may be filled at any regular meeting of the association, members to be notified in advance that such action is to be taken.

Article II.—Section 1. The president, or in his absence, the vice-president, shall preside at all meetings of the association, and in the absence of both president and vice-president, the association shall elect a president pro tem.

Sec. 2. The secretary treasurer shall attend all meetings of the association and executive committee, keeping full record of the same, receive all money paid by members and keep an accurate account of this and all disbursements.

Sec. 3. A sum necessary to defray all expenses of clerical labor, etc., shall be paid from the treasury.

Sec. 4. The executive committee shall attend to any important business that may be referred to it by the association, shall hold meetings as may be required from time to time, and shall call special meetings whenever, in their judgment, it may be advisable.

Sec. 5. The railroad fares or the members of the executive committee attending committee meetings shall be paid from the treasury, excepting at times of meetings of the association.

Article III.—Applications for membership shall be handed to the secretary and acted upon by the executive committee and reported by them at the next regular meeting of the association, when a majority vote shall elect.

Article IV.—The yearly dues shall be determined at the regular annual meetings, and be payable immediately thereafter to the secretary treasurer.

Article V.—Meetings of the association shall be held as decided by the association, the exact date and place of meetings to be decided by vote of the members or by the executive committee. The meeting nearest October shall be considered the annual meeting. The exact date of this shall be determined by the executive committee in advance, and notice of its being the annual meeting for election of officers shall be sent each member by the secretary.

Article VI.—Any section of these bylaws may be amended or revised at a regular meeting, by a two-thirds vote of the members present.

Armstrong Scorched.

A four-story brick building at Austin avenue and Lincoln street, Chicago, occupied by manufacturing concerns, was destroyed by fire Tuesday. Among the tenants were the Armstrong Bros. Tool Co., makers of special tools and bicycle parts. The loss of the company was moderate and fully covered by

HOW HOLLEYS EVOLVED

Right Thing Done in the Right Way—The Man, his Methods and Machine.

Started unostentatiously and conducted with conservative but hard headed intelligence and determination, the Holley Motor Co. may not have made as much of a splurge in the motorcycle puddle as some others. But, for all of that, let none leave them out of a reckoning of the situation. They have a bicycle that needs no defender, a factory which, if it lacks in size, does not lack in equipment or completeness, and which is, in fact, a model of its kind and an ambition to build the right thing in the right way and to do the right thing, to-day, to-morrow and every day.

It was more than three years ago that George M. Holley saw the possibilities of the motor bicycle. It is nigh on to three years ago that his ideas took practical shape. The fact that his home place, Bradford, Pa., is tucked amid the high hills of the northwestern part of that State may have had to do with his awakening. Be that as it may, the country round about is of a character that sharpens appreciation of "the bicycle that robs hills of their terrors." It is a country that tries motor bicycles or bicycles of any other sort.

When young Holley brought out the first crude model of what is now the Holley motor bicycle he became the talk of the town. When he proved that it would do what he claimed it would do, and decided to embark in its manufacture, some of his substantial fellow townsmen showed their faith by investing their money in the venture. A substantial built to order brick factory, splendidly laid out and equipped, was the result.

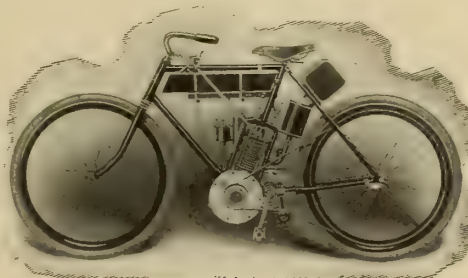
Last season something less than fifty Holleys were turned out. The first few of them did not give unqualified satisfaction. When the fact was made plain, the Holley Motor Works did not quibble. Instead, they refunded the purchase price whenever it was asked for.

The experience thus purchased was turned to advantage, and gradually the Holley motor bicycle showed the effect. The first models, with their exaggerated tread and upright motor positioned at the crank hanger—the position now in vogue—are well remembered. But they bear small resemblance to the Holley of 1902, shown by the accompanying illustration. Few if any motor bicycles give more evidence of refinement, and the fact that the Holley is still sold on the satisfaction or money refunded plan leaves little to be said. Its specifications follow:

Motor, air cooled gasoline motor, $2\frac{1}{4}$ brake horsepower; tires, Dunlop detachable, 2 by 28 inches; saddles, special motor cycle pattern; handle bars, made of extra heavy tubing, upturned; pedals, rat trap or combina-

tion; tool bag, leather bag, with complete set of tools; frame of motor cycle, diamond frame of seamless Shelby tubing, 14 by 16 inch gauge, with the motor base brazed in it, being an integral part of the frame; rear stays, D shaped; rear forks, D shaped; drop of crank hanger, $2\frac{5}{8}$ inches; fork crown, special construction, three plate, extra heavy, the stem of which is 11 inch gauge; fork sides, $1\frac{1}{4}$ by 16 inch gauge; chain, diamond, 3-16 inch; seat post, T pattern, option spring post of well known make; hubs, front extra heavy, carriage style, new departure hub, coaster brake; spokes, best grade S. S. & N. Co., extra heavy gauge; rims, extra heavy Dunlop triplet wood rim; wheel base, 46 inches; finish, black enamel; weight complete, 104 pounds; speed, 5 to 40 miles an hour.

Every part entering into its construction is of the highest grade material obtainable, and the workmanship is of par excellence. The cylinder head and piston are made of semi steel of very smooth and close texture;



the valve seats are made of cast iron, and the poppet valves are of nickel alloy, which will not break or crack under high temperature. Both inlet and exhaust valves are easily removed for cleaning by taking a screw out of the top of the bell. The connecting rod is a drop forging, and all bearings are phosphor bronze bushed. The fly wheels and axles are dropped forged in one piece, and the axles are tool steel, hardened and ground. This is an expensive operation, but is absolutely essential to a first class motor. The crank pin is also of hardened steel, and is ground to size. The exhaust valve gear and cam is made in one piece tool steel and hardened.

Spinning's Winning Ways.

Of F. M. Spinning, the Yale and Wolff-American agent in Seattle, Wash., it may be said in all truth "he knows his book." His book is a little vest pocket memoranda volume, which contains a calendar, an identification card and a gear table.

Incidentally, he makes it wind this ad. around his name:

What does the spider do when it breaks its web?

It goes to spinning for repairs.

What do you do when you break your bicycle?

Go to Spinning for repairs.

He also gives space to this urging: "If we please you, tell others; if we don't, tell us."

REAR TIRES OVERWORKED?

Coaster Brakes Add to Tax on Them but Alarmist Reports are not Borne out.

Does the use of the coaster brake device really impose an additional hardship on the already overworked rear tire, as somebody has asserted?

The theory is that the sudden stopping of the machine by the use of the brake has a tendency to injure the tire. To this it might be retorted that with the fixed gear the machine is stopped, as well as started, suddenly, and yet no one ever found that this hurt the tire to any very great extent. Nor is there any complaint of the starting; of course, this is the same whether the machine has a coaster brake or a fixed gear, and anything alleged against the one would have to be alleged against the other.

But it is not quite candid to say that back pedalling is just as severe as braking with a coaster brake. The contrary is true. And the only question is whether the difference is great enough to seriously hurt the tire.

In the early days of the coaster brake—two or three years ago—it was the general opinion that its use would necessitate the building of heavier rear wheels, and even of heavier frames. Spokes were loosened and broken, and wheels frequently needed truing as a result of the use of the coaster brake. But the matter adjusted itself in a little while, and now there is no trouble to speak of from that source.

With tires its is a little different. It is necessary to fasten a tire on very securely if a rider uses the braking part of the device much. Poorly cemented tires are sometimes torn loose, as a result of bringing the machine to too sudden a stop. A gradual loosening of the tire is yet more frequent. It does not take a very strong stroke of the pedal to skid the rear wheel, and, of course, anything of this kind must be hard on the tire. But, as has been stated, good cementing and occasional looking after the tire to see that the cement retains its life will obviate any difficulty of this sort.

This is pretty convincing proof that the coaster brake is harder on a tire than is a fixed gear machine. But it is not correct to go further than this and assert that it actually hurts the tire. In a pretty extended experience with coaster brakes the writer has failed to observe anything of the kind. And this in spite of sudden stops that have locked the wheel and produced ominous sounds as the tire slid for an inch or two along the ground.

Motor Bicycles for Police.

The motor bicycle is certainly getting on. Some of the New York papers are advocating the mounting of a portion of the bicycle police squad on motor bicycles in order to cope with scorching automobilists.

VIEWS OF A VETERAN

Elwell Tells What won him Over to Motor cycles—Adds Some Instructive Opinions.

Editor The Bicycling World.

To my inquiry re motor cycles in your issue of March 13 I met with a most generous response, both from manufacturers and riders, and the evidence thus obtained should convince any cyclist that the motor bicycle that actually does nearly, if not quite, all that one could reasonably expect has at last arrived.

It is evident that motor cycles are now on the market—varying in price from \$150 to to \$250—that will carry the rider at a speed varying from five to thirty miles an hour; that the necessary skill for operating and caring for such a machine can be readily acquired by the average man with a little study and attention; that the daily cost of running is from 10 to 15 cents a day; that the pleasure experienced in being taken over the highways on a motor bicycle is most exhilarating; that head winds and hills are no longer to be dreaded; that the running of the motor affords scope for the exercise of skill and judgment, and that one can take as much or little exercise as he may desire. These things being so, it would appear that the motor cycle in its perfected form is a bicycle that should give the cyclist the greatest amount of pleasure and satisfaction possible to be derived from their favorite sport.

The slightly increased cost and care are vastly outweighed by the advantages it confers on its rider. Rivalling the automobile in speed, for all ordinary purposes, it requires neither the initial outlay nor the constant cost of its upkeep. In case of a breakdown it can be easily taken home without calling in the aid of a span of horses or a yoke of oxen. For touring purposes it is infinitely superior to the automobile, as it can be easily taken by boat or train to any part of the country at slight trouble and cost, and thus enable its owner to enjoy his favorite sport far from home in a short space of time. The owner of an automobile cannot do this as easily or as cheaply, and at hotels a party of automobilists are often bothered to obtain good stable accommodations. Last year the Automobile Club of Portland discussed the practicability of touring from that city to Buffalo. After mature deliberation, and in the light of their past experience, not one of them dared to attempt it. Certain parts of the route, they said, would be most delightful to cover on the automobile, but there were long distances of bad roads, and the time required to go and return would be altogether too long—so the trip was abandoned. With a motor bicycle these bad places could have been skipped by train.

However, the motor bicycle and the auto-

mobile are hardly rivals, and appeal to quite different classes. To those who for many years have derived their greatest pleasure from the use of the bicycle, and are perfectly at home on the saddle, the motorcycle is simply the latest step for their comfort and enjoyment, as in former years the safety, the cushion tire, the pneumatic tire, the spring frame and improved details of construction of all parts of the bicycle have appeared from year to year for the same purpose.

To me, who became a devotee of the bicycle twenty-two years ago, it seems as though the skill of the inventor had been specially engaged to keep pace with my requirements, even against opposition on my part. I remember that I deplored the ousting of the graceful (?) high wheel by the childish looking safety, but I soon found that it was far and away in advance of my old favorite. When I saw the first pneumatic tire in Dublin, in 1889, and was asked to buy stock in the company then forming for its manufacture, I declined, because I thought its use would never become general on account of its ugly appearance, liability to puncture and trouble of repair. I have lived to regret my decision. Two years ago, when I first saw motorcycles at the Paris Exposition, and later in the season read Mr. Joseph Pennell's trials and triumphs with the same on his trip to Switzerland, I said that their use would rob cycling of all its poetry and remove its greatest claim to the affection of thousands of riders—healthful exercise in the open air.

But on these points my views have undergone a great change. I do not claim that the motor bicycle will replace the motorless bicycle as completely as the safety replaced the high wheel, or the pneumatic tire replaced the solid tire, but I feel convinced that it will ultimately come into almost universal use, and greatly exceed in numbers all other motor driven vehicles. Its low cost, simplicity of mechanism, small space required for stabling, speed and reliability insure this, and it largely rests with the makers and dealers as to length of time required to reach this stage. As yet the cycling public, to say nothing of the greater public, know next to nothing regarding the advent of the motorcycle.

Doubtless those interested in their sale will soon begin to push them into public notice, but a great improvement could have been made in the catalogues issued this year by the various makers. They all appear to take it for granted that the public understands the general principles of motorcycle construction, and only require to be told just how their particular motorcycle is built in order to at once see its superiority over all others. Now, as a matter of fact, the general public knows nothing about the operation of a gasoline engine, and, although it is not unwilling to learn, that is not yet the thing in which it is most interested. Sparking plugs, carburettors, induction coils, inlet valves, exhaust valves, compression taps, contact breakers, voltmeters, etc., do not appeal to the imagination of the average man, but

rather serve to confuse and discourage him. A full and itemized description of the motor and its operation should, of course, be given, but that in itself will not serve to fire the ambition of any save an expert in such matters to possess one.

What does appeal to every cyclist and every lover of life in the open air is the idea of a machine neat in appearance, easy to handle and inexpensive to run on which he can mount and speed like the wind uphill and down, hour after hour, with an exhilaration beyond anything possible on the motorless wheel, and arrive back home not reeking with perspiration, but cool and comfortable. These things will be appreciated at once, and the more they are enlarged upon the more interested the reader will become. For the sake of realizing this dream he will be willing to go through the labor of learning to operate and care for the machine. How many times when walking or struggling up the long, smooth grades on European highways have my companions and myself audibly longed to be able to "push the button," and by so doing invoke the aid of steam or electricity to push us over the top. That would indeed be bliss, and supply the only thing to make a cycle tour a period of unalloyed joy! Now this has come to pass, but so quietly and in such a matter of fact way that it is not realized even by the very wheelmen who have sighed for it many a time in the old days when bucking a head wind or laboriously pushing up a steep grade. Such a boon to cyclists deserves announcement commensurate with its importance. Fine paper, attractive illustrations and seductive pen pictures of the joys afforded by the advent of the motorcycle would catch the eye and fire the heart of thousands of wheelmen who are now inclined to believe that such a wheel only exists in the mind of the inventor, and that the articles advertised to do this are but traps to catch the money of the simple minded.

It would also seem as though the riders of motor bicycles might exhibit a trifle more enthusiasm, and thus help to spread their praise over the land. This would have more effect than any other one thing to cause an increased interest. Makers and dealers are suspected of selfish motives, but the testimony of the actual rider is convincing. In England Mr. Joseph Pennell has for two years been championing the claims of the motorcycle. He has urged the makers to perfect their various models, and announced their good points to the public in a manner calculated to create a demand that would encourage the makers to increased efforts toward perfection. His personal experience has convinced him that when reasonably perfected the motor bicycle will be by all odds the most convenient and enjoyable thing on wheels, and that it is within the reach of the masses, which the automobile will never be. Let the motor bicycle be boomed the coming summer, and next year every one will be in the saddle.

FRANK A. ELWELL, Portland, Me.

COASTER-BRAKES IN TRAFFIC

Subject Gives Rise to Deffering Views With Odds in Favor of the Device.

"In a tight place, say, on a crowded street, I would much rather be mounted on a machine with a fixed gear," remarked the oldest timer. "Ordinarily, I am all right on a coaster brake wheel, but when it comes to a pinch I don't feel quite at home."

"Can't say that I agree with you," retorted the coaster brake crank. "In fact, I have come to just the opposite conclusion. That is to say, the coaster brake machine gives its rider a better control than does one with a fixed gear. Even in the thickest traffic I'd rather have the former. There is with it a feeling of absolute confidence; whether you want to slow, stop or go ahead it is equally easy to do so."

"Of course, I'll admit that this feeling of confidence comes only after long use. I'll go further and say that until a rider has become thoroughly at home on a coaster brake machine the case will be just as you put it. It won't be second nature to do the right thing whatever the occasion."

"As for myself, I don't hesitate to admit that I have been 'scared stiff' more than once on a coaster brake wheel. When I wanted to slow suddenly I could not remember how to do it. I would back pedal just enough to throw the coasting arrangement in gear, but not enough to apply the brake. Consequently I would coast along until I came to my senses. But it wasn't so very long before I got over this, although it is not an easy matter to unlearn the experience of so many years."

"This is the way I size it up: When one is forward pedalling there is practically no difference between a fixed gear and a coaster brake. If, however, you want to slow, it is only necessary to stop pedalling; then the machine runs along in a dead straight line, with nothing to deflect it from its course, as there would be if pedalling was kept up. If this does not slow the machine sufficiently it only takes a little back pressure to apply the brake, and it's surprising how little of this back pressure it takes to skid the wheel."

"Now, I find that if a team gets in my way I instinctively begin to coast, watching to see if I am going to get a clear course. If it becomes plain that I am not, then I apply the brake. The slow pace it is possible to get down to in this way—almost a dead stop—is really surprising. Nine times out of ten it is sufficient to enable one to wiggle out of a tight corner."

"There is another thing that I have noticed since I began riding a coaster brake machine—more than two years ago. That is, I no longer use toe clips."

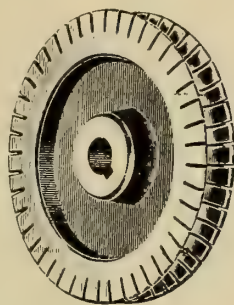
"The old pair is still on my machine, but I don't suppose that it happens three times a year that I slip my toes in them. With a fixed gear machine they were, or appeared

to be, almost absolutely necessary. I used them nearly all the time."

"When I first began to use the coaster brake I found toe clips very handy, although, owing to the slight difficulty in getting my toes in them, I did not always use them. In a short time, however, I found that my feet never slipped, even if I failed to use the toe clips. This was surprising, for it was natural to suppose that the contrary would be the case. But it was not. The feet never went round except when I was pedalling, and then the pressure kept them secure. If I coasted or braked the pedals were motionless, and it was no trouble to keep the feet on them."

Short Cuts to Success.

Where belt drive is used the engine pulley that has given the best all round satisfaction is the one with a deep groove cut in it, the cross section of the groove being a compromise between a V and a circular bottom, with more or less straight sides, according



to the shape of the belt and the ideas of the maker.

The one complaint against this style of pulley has been that sooner or later it became excessively smooth and failed to give a good gripping surface for the belt. A very simple and yet what looks to be an effective means to overcome these points has been advocated in the cutting of saw slots transversely and to a point just below the base of the groove, these cuts being about one-quarter inch apart and radiating from the centre.

It is claimed that the soft hide of the belt beds itself slightly in the saw cuts, which prevent it slipping round the pulley, so that any slipping that has to be done to compensate for jerky motor driving, is done upon the large diameter belt rim fixed to the road wheel. The saw cuts also have the effect of scraping grease and road mud away from the belt, which is consequently kept cleaner than usual, so that it need not be adjusted to such tension as is customary.

The result is economy of working by reason of that decreased tension.

Snell Company Invests.

The Snell Company has purchased a considerable portion of the machinery, tools and stocks of the dismantled Fremont Drop Forging Co. plant, and the same will be removed to their Toledo factory.

50,000 PAIRS TIRES

READY FOR DELIVERY

AT

\$1.50

\$1.75

\$2.00

**Order your tires where
you can get deliveries
and right prices.**

EYE-OPENING PRICES ON SUNDRIES

**will be mailed to Dealers sending
in their business card.**

Write us for

**PRICES
on**

Marsh Motor Bicycles

WE ARE ESTABLISHING AGENCIES.

**WILLIS
Park Row Bicycle Co.,**

**23 PARK ROW,
NEW YORK.**

Racing.

Only two heats were necessary for Walthour to defeat Lake at the Atlanta Coliseum, March 20, in a five mile motor paced race. Four thousand spectators were present. Walthour commenced to gain from the start, Lake at times closing up the gas slightly. On the eight lap Walthour passed Lake, and the latter lost his pace. Walthour first by a lap in 8:19. The second heat was started with Lake several lengths in the lead. Walthour gained steadily, however, and at the close of the first mile was one-quarter lap to the good. From this to the ninth lap it was see-saw, first Lake, then Walthour, the former making desperate efforts to shake his opponent. In the ninth lap Walthour completed his gain of a lap and won the race by a lap and one-quarter in 8:19.

A one mile professional was ridden before and after the first heat of the motor race. Hunter and Hadfield won first and second money in 2:31, while third and fourth money went to Bennett and Galvin in 2:32 3-5. Rutz rode an exhibition mile in 1:48, paced by motor bicycle.

Walthour had no trouble in defeating Rutz in a five mile motor paced heat race, best two out of three, at Atlanta, March 28. In the third mile of the first heat, Walthour passed Rutz. He twice repeated this performance in the same heat. Rutz's front wheel collapsed in the last mile, Walthour winning as he pleased in 8:07. In the second heat Walthour lapped Rutz five times with the greatest ease, winning the heat and the race in 7:54. In the mile professional race Fenn won, with Lake second and Hunter third.

Near Chateau-Thierry, France, on March 15, Osmont covered two kilometers—1.24 miles—on a motor tricycle in the remarkable time of 1m. 12s., which is equal to about sixty-two miles an hour.

He then rode up a gradient a little more than a mile in length, and having a rise varying from 7 to 9 per cent, in 1m. 28s.

The first meet at the Vailsburg (N. J.) track will occur April 15—three weeks earlier than usual.

Denver Jobbers Exchange "Compliments."

Editor The Bicycling World:

Your most estimable paper under date of March 20 received and read; especially careful were we in reading the article headed, "Tricks with Catalogues." We are the smaller "firm" referred to in said article, and we admit that we are after jobbers' prices in all lines pertaining to our business (also largest cash discounts on said lines), but we wish to enter the following protests against the statements made in said article:

First—We are jobbers and are so recognized by the largest Denver jobbers and by all of the Denver trade, save one firm.

Second—We bought and paid for our catalogues.

Third—The catalogues we issue have our name on the cover, as well as on each and every page in said catalogue.

Fourth—We are not "stool pigeons" and we are out for business and will get our share of same in time. We were very successful last season, and owing to said success we were not forced into a consolidation (as has been intimated as regards ourselves and another Denver firm), and no bank, firm or individual has us "cinched."

From the sentence, "You may search me," we know that your informant was from Chicago, and that he is interested in the one Denver firm referred to in protest No. 1, and we would advise you that this is not the first time the "one Denver firm" has endeavored to "knock" us—but we still exist and will for all of efforts to the contrary.

Asking you to kindly give us your usual fair treatment by publishing this letter in your next issue, we are

Yours respectfully,
BROWN & BECK, Denver, Col.

The Jenkinses Stir Sumter.

Jenkins Bros., of Sumter, one of the most aggressive firms in South Carolina, write that not only is business good, but that the prospects are as favorable for a continuously busy season.

One of the signs of their own prosperity was their removal last week to a newer, larger and handsomer store. They made the formal opening a pretentious affair, the local paper stating that "even the municipal primary itself took second place in point of public interest, the Jenkins's store being thronged throughout the day."

The Retail Record.

Flushing, N. Y.—August Lopaz, burned out.

Houston, Tex.—Houston Cycle Co., loss by fire \$2,500.

Waltham, Mass.—J. F. Morrissey opened repair shop.

Chicopee, Mass.—T. J. Grady opened store in Exchange street.

Littleton, N. H.—John H. Stanley succeeds Bellows & Baldwin.

Colchester, Conn.—Harry Wickwire opened store in Main street.

Newton, Mass.—Fred J. Read opened store in Washington street.

Paterson, N. J.—J. Garlick purchased building on Broadway.

Needham, Mass.—Wellesley Cycle Store purchased by Mr. Kemp.

Owosso, Mich.—E. B. Minaker opened store at 121 West Main street.

Tarrytown, N. Y.—Nicholas Koenig opened store at 13 Orchard street.

East Rochester, N. H.—Fred Corson opened store in Corson Building.

Saugerties, N. Y.—George B. Joy opened store in Peters Building.

Milford, N. H.—Homer E. Hodlin has opened store on Middle street.

Cantor the Guest of Honor.

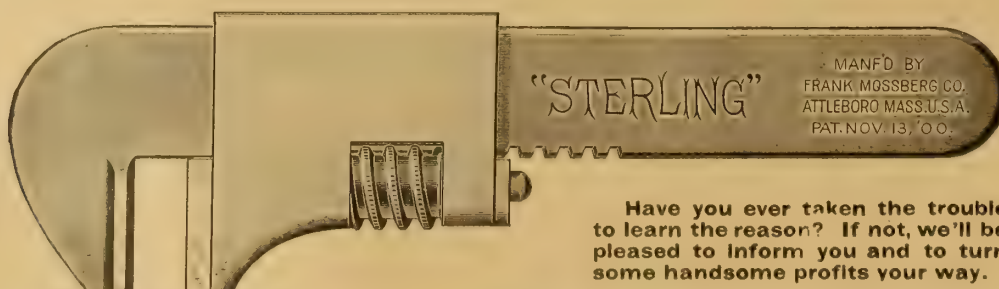
One hundred and ten members sat down to the annual banquet of the Associated Cycling Club of New York last week. Hon. Jacob A. Cantor, president of Manhattan Borough, and one of the first and most consistent friends at court the bicycle has ever had, was the guest of the evening. One of the club speakers who never rode a bicycle marred the occasion by making a cart-tail harangue for Cantor's benefit, telling Cantor that he had been invited to the dinner so that "us wheelmen" could let him know what was demanded of him.

England's Exports Also Advance.

England also is feeling the effects of the revival which is apparently becoming universal. During February last England exported bicycles to the value of £51,244, as against £38,483 in February of 1901.

There Must be a Reason for the Remarkable Sale OF THIS BICYCLE WRENCH. AND THERE IS.

Length
5
Inches



Weight
4 1-2
Ounces.

Have you ever taken the trouble to learn the reason? If not, we'll be pleased to inform you and to turn some handsome profits your way.

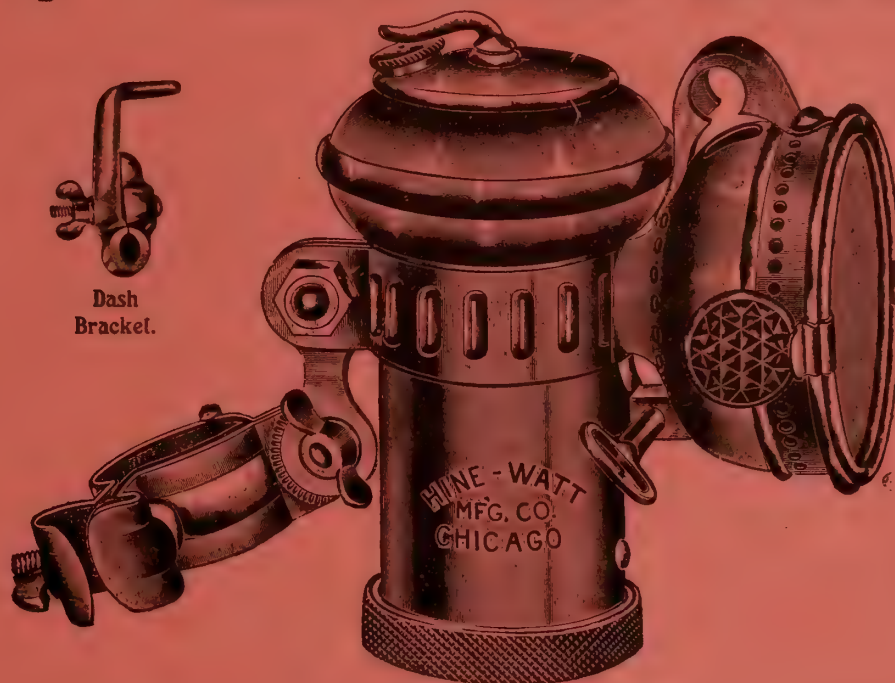
FRANK MOSSBERG COMPANY, - ATTLEBORO, MASS.

DEALERS, ATTENTION!

..... REASONS WHY
YOU SHOULD HANDLE THE

Columbia Automatic Gas Lamp.

Why? Because the JOBBER, the DEALER and the RIDER are SATISFIED with the GOODS.



READ THIS FROM A DEALER.

HINE-WATT MFG. CO., Chicago. St. Paul, Minn., March 7, 1902.

Gentlemen:—Yours of the 6th at hand and noted, I do not see why I cannot handle half a gross of Columbia lamps this year if the season is any good, as I have sold several gross and they gave the best satisfaction of any lamp I ever sold. Yours truly, BIRD CYCLE CO.

LIGHTS AT ONCE and TURNS DOWN or OUT AT ONCE; NO WAITING.

CAN BURN same CHARGE REPEATEDLY until CHARGE is EXHAUSTED.

NO DELICATE VALVES or TUBES to CORRODE and STOP UP, HENCE no EXPLOSIONS, no TROUBLE in CLEANING.

EQUIPPED with our NEW (just out) BURNER, which will not stop up and refuse to perform its functions.

OUR FRIENDS say it is the **ONLY GAS LAMP** that has all of the advantages of the **OIL** and **CARBIDE** lanterns combined in **ONE LAMP**.

ASK YOUR JOBBER FOR THE COLUMBIA AUTOMATIC GAS LAMP.

IF THEY DO NOT CARRY IT, WRITE TO US.

Each of our models is plainly marked on the body of the lamp, thus: 1900, 1901, MODEL C. MODEL C is the 1902 MODEL.

The 1901 and MODEL C are the only IMPROVED and RELIABLE MODELS.

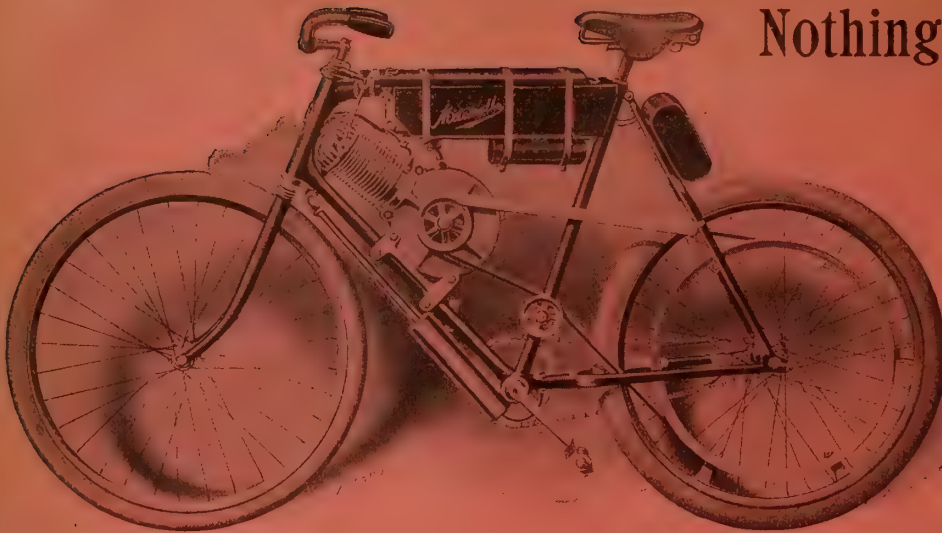
HINE-WATT MFG. CO., 60 Wabash Avenue, Chicago.

Nothing Freakish in the Design

OF THE

Mitchell Motor Bicycle.

THE PROOF OF THE PUDDING, Etc.



Mr. F. I. Carter, our energetic Salt Lake City agent, thought at one time that all motor cycles were alike, and it was only by working our stenographer overtime we were able to induce him to try a Mitchell.

Salt Lake City, Utah, Feb. 22, 1902

WISCONSIN WHEEL WORKS, Racine Junction, Wis.

GENTLEMEN:—Every day during the past week we have used our new Mitchell Motor Cycle on the streets of Salt Lake with splendid success. The machine is meeting our every requirement it is reliable, speedy, of easy control and handles all our grades without an effort.

As a means of advertising the Mitchell line and my own business it has a value greater than its listed price and, as a matter of fact, it is the best medium we have ever used.

Other Motor Cycles have come and gone but the Mitchell is here to stay and we treated our citizens to a genuine surprise when we brought out the Mitchell and it proved itself a goer. We would not do without the machine, for several times its price, if we could not get another.

Yours very truly, F. I. CARTER.

The Mitchell Motor Bicycle takes the traveling man where he wants to go at small expense. Mr. Hofmeister purchased his machine last October.

Milwaukee, Wis., Feb. 24, 1902.

WISCONSIN WHEEL WORKS, Racine Junction, Wis.

GENTLEMEN:—Have been riding your Mitchell Motor Cycle from one end of the state to the other and cheerfully admit that there is no conveyance of any kind that comes anywhere near your Motor Cycle.

The speed rests entirely with the rider. If you enjoy it you can reduce the speed so you almost crawl along; while, if the road is smooth and your sporting blood is up, you can race with passenger trains and they must be good ones if they can shake you.

For commercial travelers that are not overloaded with samples they are the ideal thing. Because you do not have to wait for trains, one can make more towns and consequently earn more money. Last, not least, save all livery expense, and railroad fares. Yes, the Motor Cycle is the best conveyance out and a beauty. Recommend it to anybody that likes to cover big territory at a better speed than can be obtained by horse. My average expense for fuel was only about 12 cents a day.

Yours truly,

LEO. HOFMEISTER,
Representing Milwaukee Oil Specialty Co.

LIVE BICYCLE AGENTS ARE RAPIDLY COMING UNDER COVER OF THE MITCHELL CONTRACT.

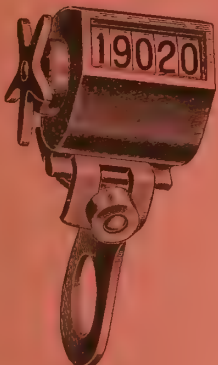
See samples at following General Agencies:—HENRY VAN ARSDALE, No. 20 Broad Street, NEW YORK CITY; GEO. S. ATWATER, No. 8 Merrimac Street, BOSTON; WHIPPLE CYCLE COMPANY, No. 260 West Jackson Boulevard, CHICAGO; MITCHELL, LEWIS & STAVEL CO., PORTLAND, ORE.; SMITH & ZIMMER, MINNEAPOLIS, MINN.

Manufactured by WISCONSIN WHEEL WORKS, Box W, Racine, Wisconsin.

Veeder Cyclometers

STAND ALONE.

10,000 Miles
and Repeat.



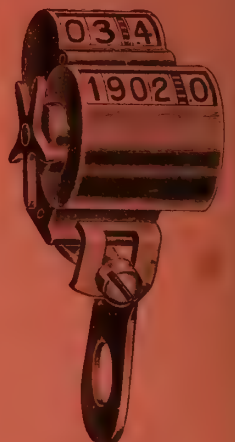
ACTUAL SIZE.

Competition has been silenced by sheer
... SUPERIORITY ...

Wheelmen no longer ask for a "CYCLOMETER."
They ask for a "VEEDER."
Those two words are synonymous.

Dealers can secure them from any jobber of consequence in the
United States. They are on sale in every
civilized country in the world.

10 000 Miles and Repeat
and Trip.



ACTUAL SIZE.

Makers of CYCLOMETERS,
ODOMETERS,
COUNTERS,
FINE CASTINGS.

THE VEEDER MFG. CO.,
HARTFORD, CONN.

CATALOGUE FREE.

FORMOSA NOT FASTIDIOUS

Price, Rather than Uptodateness, the Chief Factor—Oddities of the Demand.

The bicycle best suited to Formosa's requirements, writes Consul Davidson from Tamsui, is one that will come up to the following specification:

Model—While men's wheels are generally preferred, it is worth while to note that Chinese male riders do not object to a lady's wheel; in fact, many prefer it, as it is possible with the latter to wear the characteristic long coat. Therefore, if there is an advantage in price, dealers who cater to the Chinese trade will usually permit a portion of their order to be for this model wheel. This does not apply to Japanese, however, the majority of whom have adopted foreign dress and therefore desire men's wheels. The social laws of China act as a barrier to the women of that nation riding a bicycle; and in Japan, while there are no social laws that prevent it, the general feeling among women is that it would be unladylike to engage in the sport. Japan, however, is a land of social revolution, and it is not unlikely that the wheel will in time be adopted by this sex. As evidence of this there are at present a dozen or so high class Japanese young ladies in Tokio who ride, and they have organized a cycling club, to the astonishment of, I might say, the whole nation; but from the comments of the Japanese press, the innovation was as a rule favorably received by the men and the use of the bicycle generally advocated. The Japanese young lady has but little of the physical strength of her Western sister, and the moderate use of the wheel would doubtless be a very beneficial form of exercise.

Size—Japanese and Chinese, who are practically the only customers for bicycles in Formosa, will average somewhat under foreigners in height. Consequently a 22-inch frame is the most suitable; in fact, dealers will not accept 24-inch frames.

Equipment—The double tube tire seems to be the only one suited to Formosa. Single tires have not given satisfaction here, for the reason that a really bad puncture cannot be repaired without recourse to a repair shop, and there is, unfortunately, no such establishment in Formosa. Furthermore, owing to the tropical heat, the rubber packing in the tire valves frequently softens and renders the valve useless, and when this occurs they have sometimes to be replaced. With the ordinary single tube the valve cannot be taken out; thus the double tire is preferable on this score also. The Formosan customer looks more to the tire than to the frame, and the few high priced wheels with single tires which have come into the island have been sold at a loss. All wheels should be equipped with brakes. A San Francisco dealer, in forwarding to the island a shipment of wheels which were to be

equipped with brakes, wrote the local merchant that "as the use of brakes had been practically given up in San Francisco" he had taken the liberty of canceling that item in the order. The unfortunate Formosan dealer had to hold these wheels in stock for four months until brakes could be obtained from America and fitted on. The Formosan rider is but little concerned with the "fashion in San Francisco," and he does not consider a bicycle complete unless it is provided with a brake. Although adjustable handle bars do not permit of a very perfect adjustment of the handle bar brake, these bars are desirable, as the rider can place the handles in the position which best suits him. If adjustable bars cannot be supplied, the turned up handle bars, such as are used on ladies' machines, are preferable. The gear should be medium—say, seventy-three.

Price—With a duty of 25 per cent and excessive freight rates, the so-called high grade wheels are too expensive for this market. A good, strong wheel, with brake and double tires, selling in two dozen lots at, say, \$15 to \$16 a wheel, would receive a warm welcome, and even at \$17 or \$18 there would be some demand. These need not necessarily be 1902 models; wheels of the 1900 model, and made by comparatively unknown manufacturers, would be quite as satisfactory for this market.

Bringing Them out.

Revival is in the air. The cycle is in for a renewed period of popularity. Everywhere one sees the signs, and they have not escaped the old timers, who needed but a little pushing to land them in the ranks again.

"You can't guess what I did the other morning," remarked Harry J. Hall, the old racing man, to The Bicycling World man as they met on a Brooklyn car the other day.

"Took a ride, I suppose?" was the counter question of the latter, who knew the tone.

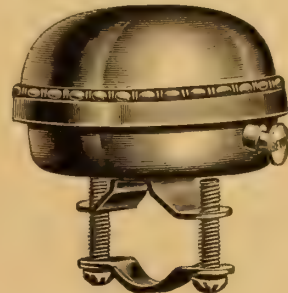
"Yes, that is just what I did. I got up early and went out for a spin. Rode a dozen miles or so, and got to 'hitting it up' before I got home. Never felt a thing, however, until I got off my machine, and then my legs just went from under me. Otherwise, however, I felt good and enjoyed the ride immensely.

"I've got to take up riding again," he went on. "I must have some kind of exercise. I never felt so well as when I rode regularly, and I miss it. There's nothing like a bicycle ride to give one a good digestion, and mine has not been of the very best since I gave it up. But I am going to turn over a new leaf."

Probably nothing irritates a rider more than the constant rattling of a piece of spelter in the front or rear forks or the rear stays. In any of these the spelter cannot be conveniently removed. The following remedy is suggested by one who has tried it: Warm the tubing and an oil can containing vaseline, and then squirt the fluid vaseline through the vent hole. When the vaseline again hardens it will pretty nearly last the season through.

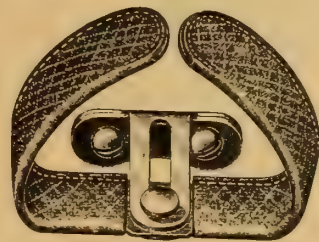
It is

Now the Retailer's Turn



to make the most of

**BEVIN
BELLS,
TOE CLIPS,
LAMP BRACKETS,
TROUSER GUARDS, ETC.**



**Riders
are Calling for Such
Articles**

and the Bevin line is so large and so varied and the prices so fair that there is no good reason why every caller should not be made a customer.

**BEVIN BROS. MFG. CO.
EAST HAMPTON, CONN.**

Business Founded 1832.

The Week's Exports.

England, with purchases aggregating \$17,000, was easily at the top of last week's export manifest. The other large buyers were Germany, \$5,000; Holland, \$5,000; Italy, \$3,000, and Sweden, \$3,000, the record in detail being as follows:

Antwerp—28 cases bicycles and material, \$1,131.

Athens—3 cases bicycles, \$200.

Argentine Republic—1 case bicycle material, \$49.

Amsterdam—81 cases bicycles, \$3,940; 10 cases bicycle material, \$295.

British East Indies—64 cases bicycles and material, \$2,293.

Bremen—2 cases bicycles, \$40; 11 cases bicycle material, \$165.

British Guiana—3 cases bicycles and materials, \$38.

Brussels—11 cases bicycles, \$213.

Boston—4 cases bicycles, \$100.

British West Indies—55 cases bicycles and material, \$1,658.

British Possessions in Africa—1 case bicycles and material, \$31.

Cuba—4 cases bicycle material, \$82.

Christiania—50 cases bicycles, \$1,065.

Copenhagen—27 cases bicycles, \$525.

Drontheim—2 cases bicycle material, \$111.

Danish West Indies—2 cases bicycles and parts, \$22.

Dutch West Indies—1 case bicycles, \$114.

Egypt—2 cases bicycle material, \$50.

Gothenburg—70 cases bicycles, \$2,890.

Glasgow—1 case bicycles, \$35.

Genoa—1 case bicycles, \$75; 9 cases bicycle material, \$660.

Havre—19 cases bicycles, \$521; 10 cases bicycles and material, \$215.

Hull—7 cases bicycles, \$195.

Helsingfors—25 cases bicycles, \$450.

Hamburg—167 cases bicycles, \$3,370; 35 cases bicycle material, \$1,516.

Hango—15 cases bicycles, \$375.

London—103 cases bicycles, \$1,478; 132 cases bicycle material, \$9,462.

Liverpool—32 cases bicycles, \$846; 31 cases bicycle material, \$1,372.

Malta—6 cases bicycles and material, \$90.

Milan—11 cases bicycle material, \$600.

Rotterdam—41 cases bicycles, \$1,085; 5 cases bicycle material, \$109.

Toulouse—2 cases bicycles, \$200.

Southampton—31 cases bicycle material, \$2,982.

Turin—500 cases bicycles, \$2,500.

Stockholm—21 cases bicycle material, \$200.

St. Petersburg—6 cases bicycles, \$358; 4 cases bicycle material, \$275.

United States of Colombia—1 case bicycles, \$46.

Brought out Tandems, Too.

Among the machines which have been brought out from garret and cellar and made to do service again under the influence of the cycling revival are a number of tandems. Most of those seen during the last week were manned by two men, but in a number of cases they were ridden by one of each sex. In a few instances the woman rode on the rear seat.

Governing at the Throttle.

Despite the evidences furnished by automobiles, many designers and makers of carburetters for use on motor bicycles overlook the value of a throttle in the gas passage or in the gas chamber. Not only is it overlooked in some cases by comparatively new makers, but in one case, at least, a well known maker is reported to have discarded it for this year. Inquiry fails to bring definite information in this case beyond the seeming reason that the man in charge of the construction end has arbitrarily taken the position that it is not needed and that governing the motor, beyond the sparking mechanism, can be done through the exhaust.

That this is an expensive method of running is now recognized, and the only excuse it could ever have had, with steam practice so long known, was that pioneer makers of gasoline motors had used it. This is only half a reason, however, and cannot furnish an excuse to any one who keeps thoroughly in touch with all that is latest in practice. Regulation through a throttle on the carburetter is not only a sensible method, apart from economy of gasoline, but it means simplicity and quietness in running. To take a step backward from throttle to no throttle is a regrettable act that will show in competition for honors.

In adjusting the handle bar to get the right position for the opening ride, too much care cannot be exercised in tightening the lock nut to prevent possible accidents.



Write us for list of manufacturers who build bicycles with "Regas" Spring Frames.

A POSITIVE LUXURY FOR LITTLE MONEY.

—A BICYCLE WITH—

"Regas" Spring Frame.

SMOOTHES THE ROAD. IT NEVER BUMPS.

TAKES THE JAR OFF THE SPINE.

Better than any other spring or cushion device known. WORTHY OF YOUR INVESTIGATION.

Try all the others first. Then try the "Regas" Spring Frame and you will experience a new and delightful sensation.

REGAS VEHICLE CO., Sole manufacturers "Regas" Spring Frame Fittings, **Rochester, New York.**

"MOTOCYCLES AND HOW TO MANAGE THEM"

REVISED EDITION

BOUND IN CLOTH

The only Book of the Sort in Existence

CONTAINS A MINE OF VALUABLE INFORMATION

PRICE, ONE DOLLAR

THE GOODMAN COMPANY

123-125 Tribune Building, - New York City

WE BOUGHT THE WHOLE BUSINESS,

13,300 Pairs ...of... New Brunswick Tires

WHEN THE FACTORY WAS DISCONTINUED.

They are Money-Makers. They are selling fast.

You should get in touch with us quick.

Write us about our \$15.00 BICYCLE.

BOSTON CYCLE & SUNDRY COMPANY,

J. M. LINSOTT, Manager.

7 Hanover Street, BOSTON, MASS.

The Week's Patents.

695,955. Bicycle. George W. Smith, Dallas, Tex. Filed June 22, 1901. Serial No. 65,677. (No model.)

Claim—1. A bicycle frame comprising a crank hanger, a reach bar, top and bottom runs, rear braces, pivoted links connecting the top run and rear braces, a crank axle pivotally connecting the reach bar and bottom runs, a seat post having its upper end pivotally secured to the pivoted links, and its lower end bifurcated to provide arms having clips adapted to embrace the crank hanger.

695,960. Wind Shield for Cycles. Egbert Stevens, Chicago, Ill. Filed Jan. 6, 1902. Serial No. 88,678. (No model.)

Claim—In a wind shield for cycles the combination of a square stick; a long sleeve sliding on the said stick; a short sleeve sliding on the said long sleeve; a stop on the said stick; a stop on the said long sleeve; a ring on the said long sleeve; a number of stretchers hinged to the ring on the long sleeve; a number of longer stretchers hinged to the said short sleeve; ribs hinged to the outer ends of the said stretchers; a ring near the point of the said stick to which ring are hinged the converging ends of the ribs; a spring clip to embrace the said stick; a spring clip to grasp the steering socket; a rod connecting the said spring clips; sockets attached to the outer ends of the hub of the front wheel of the cycle; stay rods having their upper ends hinged to the outer of the said ribs and their lower ends inserted in the said sockets; a foldable fabric covering the space between the said ribs; a triangular piece of foldable fabric on each side of the front wheel and attached by two of its sides to the forward part of the outer of the ribs and to the said stays, substantially as described in the above specification.

696,001. Motor Cycle Frame. Vincent H. Bendix, New York, N. Y. Filed July 6, 1901. Serial No. 67,262. (No model.)

Claim—1. A motor cycle frame having a front member provided with a seat for the rider and a rear member provided with a motor support, the front and rear members being connected by means adapted to confine the vibration of the motor to the rear member.

696,036. Coaster Brake or the Like. Charles Glover, New Britain, Conn., assignor to P. & F. Corbin, New Britain, Conn., a corporation of Connecticut. Filed Oct. 1, 1901. Serial No. 77,190. (No model.)

Claim—1. In a device of the character described, an axle, a driver, an extension therefrom, a wheel hub, a brake actuator to act upon the wheel hub, a brake actuator, teeth on the brake actuator and upon said wheel hub and a pawl between the brake actuator and the driver extension, and an oppositely arranged pawl between the wheel hub and the driver extension, a frame carrying said pawls, said frame having limited rotative movements relatively to said driver.

696,102. Spring Bearing for Bicycles or Other Vehicles. Fred L. Koehler, Chicago, Ill., assignor of one-third to Thomas J. Duane, Marion, S. D. Filed Feb. 6, 1902. Serial No. 92,899. (No model.)

Claim—1. In a spring bearing for bicycles and other vehicles, in combination, a supporting frame; a wheel; an axle therefor; and means comprising a pivoted member, for connecting the wheel axle to the frame, and for maintaining said axle at a constant distance from the driving axle of the bicycle.

696,152. Bicycle Support. Melvin H. Tyler,

Muncie, Ind. Filed Aug. 16, 1901. Serial No. 72,261. (No model.)

Claim—1. A bicycle support comprising an attaching bracket for engagement with a portion of the bicycle frame, supporting legs formed of a single wire bent to form spaced legs and a connecting bight and having the wire of one leg linked to form a handle, and a link pivotally connected with the bracket and having a perforation in which the bight is pivotally engaged.

696,231. Carburetting Device for Explosion Engines. Joseph Fillet, Neuilly-sur-Seine, France. Filed Jan. 12, 1901. Serial No. 42,975. (No model.)

Claim—1. In a device for the purpose specified, the combination with an upright vaporizing coil, means for supplying a liquid hydrocarbon to the lower whirls only of said coil and maintaining the level of said liquid therein, an upright air conduit adjacent to said coil, and a mixing chamber into which the air and vapor are discharged, or means for heating the air conduit and vaporizer simultaneously with the hot exhaust gases from the engine, substantially as set forth.

696,310. Bicycle. Nathaniel E. Brown, Aitkin, Minn. Filed Sept. 20, 1901. Serial No. 75,666. (No model.)

Claim—1. A bicycle, having a main rigid frame carrying a saddle and the crank mechanism, said frame being mounted to swing from the axle of the steering wheel as the fulcrum, an auxiliary link frame fulcrumed on the axle of the drive wheel and on the said main frame, and a connection between the auxiliary frame and the crank mechanism for imparting an up and down motion to the said auxiliary frame and by the latter to the main rigid frame, as set forth.

696,349. Changeable Gear for Bicycles. Hyla F. Maynes, Corning, N. Y. Filed July 2, 1901. Serial No. 66,812. (No model.)

Claim—1. In a changeable gear for bicycles, a hub for the rear wheel, provided with independently acting gears, one gear being for high speed and the other for low speed, a drive shaft adapted to drive the hub of the said rear wheel, which drive shaft carries two gears, one meshing with the high speed gear of the hub and the other with the low speed gear of the hub, and means for bringing either the high speed or the low speed gear in action through back pedaling, for the purpose set forth.

DIAMOND TIRES
FOR
Carriages, Automobiles and Bicycles.
Made in AKRON, OHIO, by
THE DIAMOND RUBBER COMPANY

OILERS.**"PERFECT"**

25c.

"CEM"

5c.

"LEADER"

10c.

"CROWN"

5c.

"STAR"

10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs., 240-2 W. 23d St., N. Y.

Pierce Cycles

FOR 1902

In Front



FRANK KRAMER, riding the Pierce Racer, won the Professional Championship of the United States for 1901. He has ridden the Pierce Racer for three seasons. In 1899 he won the Amateur Championship, and in 1900 was the next to the winner of the Professional Championship.

MR. KRAMER SAYS:

"The Pierce Racer suits me exactly, and I can win with it."

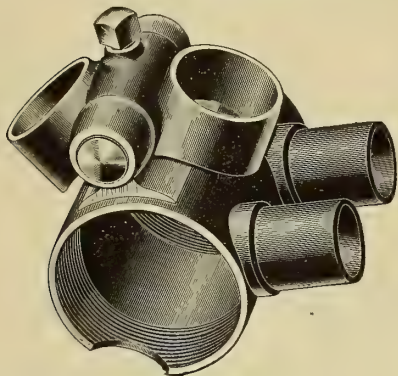
If Mr. Kramer can win the highest honors on the "Pierce" it surely must be good enough for anyone and good enough to "push."

The George N. Pierce Co.

BUFFALO NEW YORK
DENVER SAN JOSE

Fauber Hinge Bracket

*for Cushion and Spring
Frame Bicycles.*



The hinge parts are made of forgings.
Bearing points are wide apart lessening chance for
lost motion.

The hinge pin is a hardened and ground taper pin.
Bracket for 1 1/8 in. and 1 in. tubing fitted to all
styles

FAUBER HANGERS

FAUBER MFG. CO., - Elgin, Ill.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN

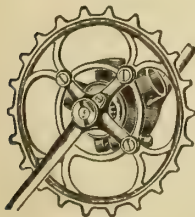


**NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.**

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.



"D. & J." HANGERS



FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY
THE NATIONAL CEMENT & RUBBER MFG. COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

FOR SALE—Thomas Motor Bicycle in good
condition, \$75. J. N. EASLAND, Gt. Barrington,
Mass.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.

Depots: 210 Lake St., Chicago.

423 Broome St., New York

Bicycle Parts and Tubing

WRITE US FOR PRICES.

THE STANDARD WELDING CO.
CLEVELAND, OHIO

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

50 BICYCLE ADS.

They are reproductions of Ads that have
brought us trade. Catchy headlines. Attractive
wording. Ready for the printer. They will surely
bring customers. Try them. Stamps taken.
Address H. P. TOWNLEY, TERRE HAUTE, IND.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

Upon receipt of 40 cents in stamps, we will mail one
dozen of the MAGIC as a sample trial to any part of
U. S. A. Ask your jobber for it.



HAS A POINT ONLY 1/16 IN. DIAMETER.

Bicycle salesmen wanted to handle the MAGIC as a
side line.

THE MAGIC REPAIR TUBE CO., 248 LARRABEE ST., CHICAGO, ILL.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

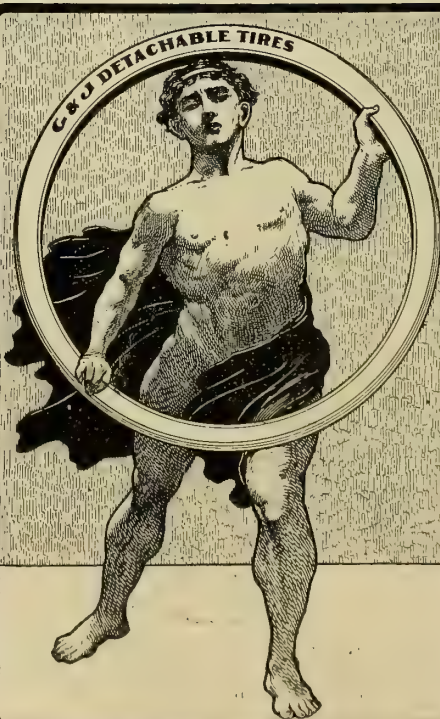
Sheet Metal Stamping.

THE ARMSTRONG "A" CRANK HANGER



is conceded by competent judges to be the
most perfect in point of design, mechanical
construction, finish and materials used,
that it is possible to produce. Made in
one grade only, the highest. Handsome
in appearance; simple in construction; easy
and positive adjustment. We make the
most complete line of bicycle frame fittings
and crank hangers on the market.
Our 1902 prices are low. Write for them.

ARMSTRONG BROS. TOOL CO., Chicago.



G & J TIRES

EMBODY
ALL ESSENTIALS
OF

PERFECTION

*Strength,
Durability,
Speed,
Ease of Repair.*

1902 CATALOGUES NOW READY

G & J TIRE CO.
INDIANAPOLIS - IND.

MAKERS OF
G & J DETACHABLE TIRES.
FOR ALL CLASSES OF VEHICLES



It looks like this

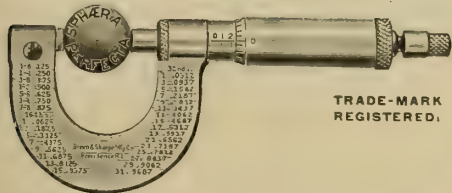
THE HEXAGON HEAD

Wolff-American

MODEL 57

is a Modele de Luxe.

**STEARNS BICYCLE AGENCY,
SYRACUSE, N. Y.**



TRADE-MARK
REGISTERED.

STEEL BALLS

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

- That every ball is a perfect sphere.
- That every ball is within 1-10,000 of an inch of exact size.
- That the balls are made of the best quality of true crucible tool steel.
- That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

Where do They go?

The question, "What becomes of old bicycles?" has never been satisfactorily answered. Occasionally a writer comes across an old machine doing duty as a trade sign over some repairer's shop, or doing service as a vehicle for an itinerant scissors grinder. But these are only occasional sights, and very few obsolete machines are utilized for such purposes. There must be hundreds of discarded machines somewhere. Perhaps they find their way to boys' homes and philanthropic institutions. It would be interesting to know, however, whether this supposition is correct. It would prevent the constant reiteration of the query.

Change Gear With Seven Speeds.

The motor vehicle is not alone to be equipped with change speed gears, if we may believe our foreign exchanges. The old two speed gear has been revamped and added to until now the English market is promised a gear having seven speeds that involve no interruption while changing. The device is designed to be used with either free or fixed wheels, and it is claimed that moving a wire at the handle bar does the whole thing.

Comes the Spring Jokelet.

The spring joker is at it again, and this is his latest effort anent the bicycle:

Bicycle riding may be on the wane, or on the cinder path, but bicycle manufacturing continues. The — Mfg. Co., has an order for one thousand wheels, and will at once proceed to rubber the wheels and handle the bars.

Against Single Lever.

The tendency on the part of some motor bicycle makers to combine all the functions of control in one lever is not admitted by one expert as being the best possible thing. According to him one might as well try to operate the finder, film, roller, shutter and focus of a camera with one button.

Now comes the advice that tires can be prevented from growing stiff and hard by occasionally going over them with a rag that has been dipped in a mild solution of soda and water.

"I'm all tuckered out as the result of my ride."

That's a common remark these days.

Many riders do not yet appreciate that the feeling is due not so much to the pushing of the pedals as to the vibration.

It is therefore almost the duty of the dealer to point out the fact and the pointing out leads straight to this truth —

To Avoid That "Tuckered Out Feeling" Ride a Cushion Frame.

On it vibration is eliminated and one rides in comfort and finishes refreshed.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

20th Century Double Bells

SOMETHING NEW IN THE BELL LINE.

Very musical chime.

Two stationary gongs.

Two bells in one.

LOUDEST RINGING BELLS ON THE MARKET.

50 CENTS LIST PRICE.

Trade Price is Low Enough to Satisfy Everyone.

We have THREE OTHER SPECIAL BELLS at INTERESTING PRICES.

CATALOGUE AND TRADE PRICE READY

(WILLIS' PRICES ARE BUSINESS MAKERS.)

WILLIS PARK ROW BICYCLE CO., 23 Park Row New York.

HAVE YOUR BICYCLE EQUIPED WITH A

NEW DEPARTURE COASTER BRAKE

SOLD EVERYWHERE BY EVERY BODY

MANUFACTURED BY
THE NEW DEPARTURE BELL CO.
BRISTOL, CONN. U.S.A.

SELLING AGENTS
JOHN H. GRAHAM & Co.
NEW YORK CITY.

SOLAR LAMPS

ALWAYS SATISFY.

Badger Brass Mfg. Co., Kenosha Wis.

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburg
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto Ont

All American wheelmen who desire to keep themselves posted upon matters concerning the cycle in Europe, its trade, mechanics, and sport, should subscribe to

THE CYCLIST

AND BICYCLING AND TRICYCLING TRADES REVIEW.

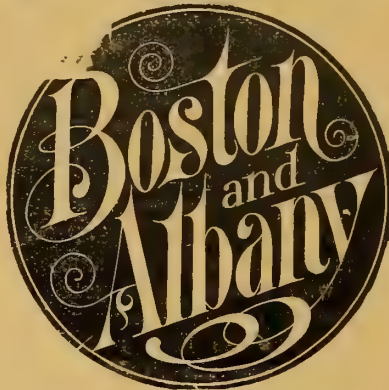
The only recognized authority of English trade and manufac-
ture. Sent post free to any part of America for one year, \$3.25.
American manufacturers having novelties in machines or sun-
dries to introduce should advertise in

THE CYCLIST.

Terms on application to

ILIFFE SONS & STURMEY, Ltd.,
19 Hartford Street, Coventry, England.

Members of the American Trade visiting England are invited to
call at THE CYCLIST Office at Coventry or at 3 St. Bride Street,
Ludgate Circus, London, E. C.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.
"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars.
For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage Them"

is the very book you need.

Every page teaches a lesson. Every illustration
"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.

If You are Interested in Automobiles, THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday
at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines. A. H. HANSON, G. P. A., Chicago

BOSTON & MAINE R.R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.

BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDDY & SON, Ltd., Proprietors,

49 Middle Abbey St., DUBLIN.

"At the foot of Pikes Peak."

COLORADO SPRINGS.

Like a child at play, Colorado Springs sits basking in the sunshine at the foot of Pikes Peak, amid the most enjoyable surroundings. No location could be more delightful. This region is best reached from the East by the

NEW YORK CENTRAL LINES

and their connections, with but one change of cars from New York or Boston.

For particulars inquire of any New York Central ticket agent.

A copy of "America's Summer Resorts," will be sent free, postpaid, on receipt of a postage stamp by George H. Daniels, General Passenger Agent, New York Central & Hudson River Railroad, Grand Central Station, New York.

—THE— 1902 YALE

IS HANDLED BY REPRESENTATIVE AGENTS

Our Catalogue Showing the
12 VARIETIES
is Ready

YOUR ATTENTION INVITED
TO A BUSINESS PROPOSITION

The Kirk Mfg. Co., Toledo, Ohio

167 Oliver St., Boston, Mass.

83 Chambers St., New York

The Snell Bicycle

AN OLD ESTABLISHED NAME PLATE
on a COMPLETE LINE of NEW MODELS.

The Hussey Bar.

Used on all up-to-date wheels and sold
by all live dealers.

THE SNELL CYCLE FITTINGS CO.,

Branches: New York and Boston.

TOLEDO, OHIO.

If you ride or sell,
or intend to ride or sell
motor bicycles,

"Motocycles and How to Manage Them"

is the very book you need.
Every page teaches a lesson. Every illustration
"speaks a piece."
And there are 126 pages and 41 pictures, too!

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.

WRITE FOR CATALOGUE AND PRICES

ALL THE

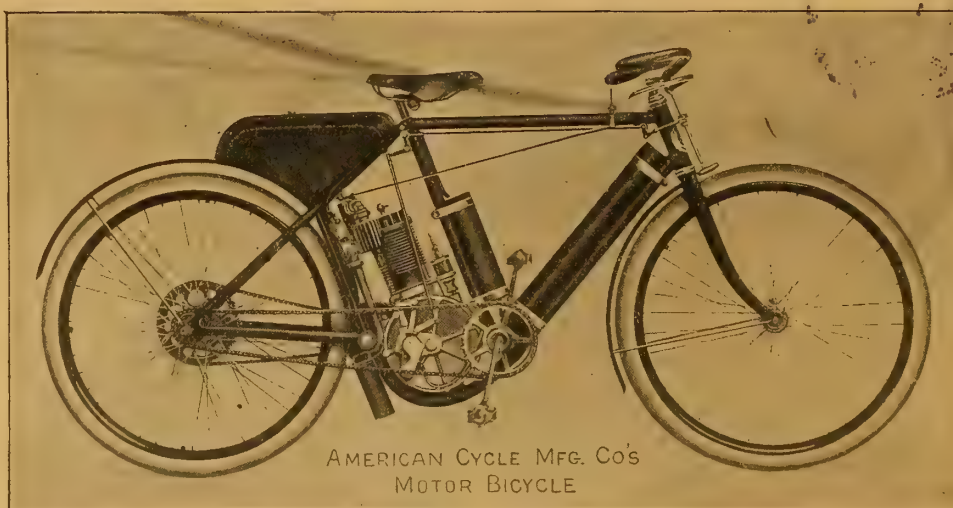
STANDARD BICYCLES

OF THE WORLD

At Prices To Suit The Purchaser

WE CAN SHOW YOU A GOOD PROFIT

COLUMBIA MONARCH
CLEVELAND RAMBLER TRIBUNE
CRESCENT IMPERIAL JUVENILE
AND MOTOR BICYCLES



AMERICAN CYCLE MFG. CO'S
MOTOR BICYCLE

Also Hygienic and Regas Cushion Frame Bicycles

AMERICAN CYCLE MANUFACTURING COMPANY

EASTERN SALES DEPARTMENT
152-154 Franklin St.
NEW YORK CITY

WESTERN SALES DEPARTMENT
497-501 Wells St.
CHICAGO, ILL.

PACIFIC COAST BRANCH
451 Mission St.
SAN FRANCISCO, CAL.

WRITE FOR CATALOGUE AND PRICES

WE WANT A LIVE DEALER IN EVERY CITY AND TOWN

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, April 10, 1902.

No. 2.

KEHEW CASE IS SETTLED

Amicable Adjustment Arranged out of Court —Why Kehew Transferred the Business.

The action of Mary F. Jones, acting for the Pratt-Stetson interests, against the United Supply Co. and George F. Kehew, of Boston, was last week settled out of court, the application for a receiver and an accounting being withdrawn.

Bearing on the matter of his transfer of the business to Jesse B. Eccleston, of Buffalo, Mr. Kehew writes:

"My entire action for sometime part has been by legal advice. Anticipating this trouble we some weeks ago made an assignment of all stocks, book accounts, etc., to Mr. Eccleston, which I had a perfect right to do. I did this because Mr. Eccleston was a personal friend of mine and purely and simply because expecting trouble it was a good means of preventing others from getting the upper hand. Mr. Eccleston never saw the original or a copy of the assignment and was entirely innocent of wrong doing."

A. B. C. Directors Meet.

The regular quarterly meeting of the Board of Directors of the American Bicycle Company occurred on Tuesday last, but it gave rise to nothing of moment. A gratifying report from J. E. Bromley, president of the subsidiary corporation, the American Cycle Manufacturing Company, is understood to have been the only thing of even passing note that came up.

There were present at the meeting: President R. L. Coleman, Colonel Albert A. Pope, H. A. Lozier, J. W. Kiser, J. E. Bromley, George Pope and George F. Crane.

Where Business is Boomlike.

D. L. Spraker, of the Kokomo Rubber Co., was among the trade visitors in New York last week. While here he confirmed the reports that had preceded him of the unprecedented demand for Kokomo tires.

"We are still behind orders," he said, "and the most amazing part of it all is that before the season opened we had accumulated a larger stock on hand than ever before."

Files its First Report.

As required by Massachusetts laws the American Cycle Manufacturing Company has filed the following statement with the Commissioner of Corporations as of date November 1, 1901:

ASSETS.

Land and water power.....	\$356,261
Buildings	912,314
Machinery	2,335,882
Cash and debts receivable.....	3,097,773
Stock in process.....	3,900,351
Miscellaneous	30,290
Total	\$10,632,873

LIABILITIES.

Capital stock	\$8,000,000
Debts	2,145,166
Balance profit and loss.....	487,706
Total	\$10,632,873

Col. Pope Resigns a Chairmanship.

Colonel Albert A. Pope has resigned as Chairman of the Board of Directors of the American Bicycle Company.

The publication of the fact has given rise to much speculation and comment, but so far as can be learned it is without significance.

Colonel Pope remains a member of the Board and also chairman of the executive committee of the corporation, and the fact that he was present at the quarterly meeting Tuesday last lends no color to the stories of his being "at outs" with his colleagues.

Verdict for Defendants.

The case of the H. H. Franklin Co., of New York State, against the Lamson & Goodnow Co., of Shelburne Falls, Mass., was begun in the Superior Court last week at Greenfield, Mass. The suit was begun some years ago, and was heard by Judge W. G. Bassett as auditor. He found for the defendants. The dispute is over some parts of bicycle pedals furnished the defendants by the plaintiffs. About \$1,000 is involved.

Bunker Burned out.

Fire on Monday last caused heavy loss to the Bunker Saddle Co., Chicago. The stock was insured for \$19,500 and the machinery, which escaped with slight damage, for \$8,000.

ROLLED AWAY THE CLOUDS

Stockholders of Canadian Trust Attend a Love Feast and Pass Vote of Confidence.

All the stories of late about intentional wrongdoing on the part of some of the directors of the Canada Cycle Co. were given an emphatic contradiction at a meeting of the shareholders of the company.

J. W. Flavelle presided, and a very large number of the shareholders were present, including many from outside points.

The president reviewed the organization of the company, the subsequent transfers of stock and the company's business afterward. He said it was hardly necessary for him to give a denial to the rumors about certain directors receiving sums of money dishonestly from the company, but he would only say there was no foundation for them whatever. He explained how certain misunderstandings had arisen, which probably gave rise to the rumors in question.

Mr. Flavelle stated that the directors were most anxious to give a full explanation. Messrs. Cox, Ryckman, Massey and Jones, he said, had bought and assumed liabilities for the companies embraced. They had agreed to pay and had paid as follows for the properties: H. A. Lozier, \$480,000; Goold Bicycle Co., \$257,000; Welland Vale, \$275,000; Massey-Harris Bicycle Co., \$300,00, and Gendron Mfg. Co., \$85,000. Later these companies came into the hands of the Canada Cycle and Motor Co. For underwriting of the company to be formed the promoters paid \$250,000, to the Provincial Treasurer \$400 and to Broker Jaffray \$20,400.

These properties were sold to the company for \$1,740,000. The difference between \$1,740,000 and the money they paid for the properties is \$72,100. This \$72,100, Mr. Flavelle explained, was retained for payment of counsel and solicitors' fees, as well as payment of valuers and accountants. Part of the \$72,100 has already been used, and part is being used in lawsuits in connection with the original purchase. All these properties passed over to the Canada Cycle and Motor Co., except the Brantford Bicycle Sup-

(Continued on page 50.)

PATS WERE PROMINENT

They Disagreed at N. C. A. Meeting—What was Done—“Tim” and “Barney” in.

An abortive and decidedly “fizzly” attempt on the part of the track owning members to control the adjourned meeting of the National Cycling Association at the Astor House, this city, on Monday last, was one of the two features of the gathering.

Pat Powers led the attempt, seconded by Arthur Irwin, of Philadelphia, and Louis H. Elmer, of Hartford. Pat Sheehan, of Boston, was in on the deal, but his nerve failed him at the last moment, which failure moved Pat of New York to denounce Pat of Boston in an unparliamentary and unprintable aside. The movement took the form of a motion to prohibit the use of proxies. This would have barred club votes and permitted the Patsies to do pretty much as they pleased. But the motion did not prevail.

The other feature of the meeting was a pointed and prolonged passage of words between the Racing Men's Union and A. A. McLean, the most visible promoter of the late Boston six days' fiasco which left the contestants whistling for the prize money. Opinions were freely expressed, but they simply added spice to the occasion.

At the meeting thirteen tracks and ten clubs and the American Racing Cyclists' Union were represented in person or by proxy. In the absence of President George M. Hendee, Vice-President C. B. Bloemcke occupied the chair.

The chief business on hand was the modification of the constitution and bylaws so as to provide for three kinds of franchises—permanent, conditional and temporary. The permanent franchise will be granted, for a fee of \$50, only to tracks especially built for cycling that will guarantee to hold at least five meets a year. This franchise grants an exclusive privilege to the track to hold meets at any time and not to be interfered with by sanctions to any other track within a radius of five miles. The conditional franchise will be open to tracks on the same terms as the permanent, but may be restricted as to territory. The temporary franchise is what will be granted to promoters for a season or a short term.

The tangle concerning the A. A. McLean and the Atlantic Cycling Racing Association of Boston was settled so far as the N. C. A. is concerned, and what else there is to be done must go to the courts. McLean was the manager of the six-day race held at Boston during the first week of this year. There is about \$2,200 of prize money yet unpaid to the riders. McLean owned half of the stock of the Atlantic Cycle Racing Association, incorporated, under which name the race was promoted. This corporation and all its stockholders were suspended, but it was voted that McLean would be reinstated if he would pay half of the debts of the concern, he be-

ing a half owner. The complication of the affair is that McLean was a one-third owner of the track at Revere Beach, but has transferred his interest in it. McLean says his interest was transferred before his failure. If this is true the N. C. A. and the riders are helpless, but Attorney H. H. Haskell, who was present in the interest of the riders, says that the matter will be taken to court, and if the McLean transfer can be shown to have been made to avoid payment of debts his interest in the Revere track will be attacked.

A special committee, with A. G. Batchelder as chairman, was appointed to devise a plan of deciding the paced championship, and after the committee has done this a meeting of track owners will be called to form a circuit. The arrangement of dates for the Grand Circuit was referred to the Board of Control.

The application of Jay Eaton to have his suspension, which terminates on August 1, abrogated and a fine substituted was refused.

A franchise was granted “Barney” Dreyfuss and “Tim” Hurst for the track at Pittsburgh. The entry of “Barney” and “Tim” adds to the baseball flavor already contributed to cycle sport by Powers and Irwin.

The Rush in Rochester.

The experience of the Rochester dealers is a fair sample of the state of affairs in what is counted as one of the best bicycle cities in the country. One dealer sold twenty wheels last March and has sold one hundred and twenty this year. Another sold forty wheels last March and has sold one hundred and sixty this year. Along the line of the New York Central, the reports from the smaller towns tell the same story. The Bicycling World has already recorded more than satisfactory business at Syracuse, N. Y., and it may be added that last Sunday a full page advertisement was run in the local papers by one concern, and two half-pages were run during the following week. To dealers in other parts of the country such methods ought to be an object lesson.

One View of the Chainless.

Personal feeling against certain people rather than dissatisfaction with the bicycle itself influenced the remark, but at that it showed a light in which the chainless is viewed.

“Damme!” he said, “I’d go back to the chain wheel if it wasn’t for the impression that the man who rides a chainless has money or amounts to something.”

And it is a peculiar fact that most of those who use chainlesses do appear to be of the solid, elderly and well-to-do classes. Since the fashion of buying a new bicycle each year lost force, the chainless is the only, or at any rate the most, apparent line of demarcation.

In England motor bicyclists are taxed \$3.75 per year. If a trailer is attached, \$10 extra is charged. This latter brings them on a par with vehicle owners: certainly a most unfair condition of things.

BROMLEY CONFIRMS REPORTS

Revival is Widespread and Factories Working Overtime—Job Lots Cease to Trouble.

J. E. Bromley, president of the American Cycle Mfg. Co., who is in this city attending the quarterly meeting of the directors of the American Bicycle Co., and whose position necessarily gives him a comprehensive sweep of the trade situation, confirms the many piecemeal reports of the volume of business that is being done.

“The cautious policy of agents in placing orders for samples only has been responsible for a somewhat unusual situation,” he said. “The remarkably favorable opening of the season caused the samples to be sold in short order and the rush and the volume of the reorders have kept us on the jump. Several of our factories have been compelled to work overtime, and as our travellers, with rarely an exception, report that agents are full of renewed confidence and enthusiasm, the prospect is all any reasonable man could expect.

“Another factor that is making for good is the final disappearance of joblot bicycles. Excepting a few odd sizes our factories are clear of them, and with the advance in the price of tubing and raw material, I think the cheap bicycle will cease to cut much of a figure in the business.

“Motor bicycles? The demand, I confess, his simply surprised me.”

What one Traveler did.

W. F. Kelliher, an Orient traveller who has just completed a tour of New Jersey and Pennsylvania, was in the city on Saturday last, and with the face-wide smile that betokens the renewed prosperity of the trade.

He had closed with all the old agents, and in New Jersey alone had appointed and taken orders from twenty-two new ones who had never before sold Orions. In one day he made six separate towns and made sales in each of them. He named the towns when doubt was expressed. Kelliher hoped that he “might never move from this spot” if it was found that he did not speak the truth. A narrow escape from the big fire in Atlantic City contributed to the excitement of Kelliher's trip.

Keim Drops a Hint to Dealers.

When John R. Keim, of Buffalo, N. Y., advertises that there is “something doing in Le Roy bicycles,” it is in the form of a wink that should be sufficient to attract the inquiry of the wise ones. It is no secret that Keim's quotations are eye-openers and such as put dealers in position to meet any competition that may arise. With the LeRoy line, including bicycles for adults and for juveniles as well and also a Regas spring frame model, it certainly is such as appeals to all sorts and conditions of people.

SLEE TALKS 'OF SUCCESS

With a Record of Success to Back him he Deals With the Contributing Causes.

One of the most monumental examples of how "keeping everlasting a it brings success" is "3-in-1" oil.

Brought out in a small way by George W. Cole in 1894, as a fluid designed to clean, lubricate and prevent rust on bicycles, it is now one of the best known compounds in the United States, having a sale that increases with the years. While just as good for bicycles as it ever was, its uses have been found to be so manifold and various that the cycling demand now accounts for but a relatively small portion of the total production. It is now advertised as "a household necessity."

Some idea of its remarkable advance is given by its sales during the past five months. Tabulation proves an increase of 81 per cent, over the record for the corresponding months of the previous years. Further testimony to the same effect is afforded by the contract just placed for the erection at Rahway, N. J., of a new plant, 100x150 feet.

Advertising and belief and enthusiastic and persistent evidence of belief in advertising has had much to do with the result. This department has been under the direction of J. Noah H. Slee, secretary and treasurer of the G. W. Cole Co. To get Slee started on the subject is to obtain an essay valuable to any merchant and worthy, but difficult of verbatim reproduction in print.

"It is all in the know-how," he said in talking with a *Bicycling World* man. "We believe we know how to reach the people and we reach them, although we do not directly sell to them. I daresay many dealers have been surprised by the call for 3-in-1 and wondered what caused it. Advertising in papers or by show cards is merely a part of our method. That fixes 3-in-1 in their minds and induces them to call for it when in need of an oil. But we have faith and enthusiasm in our product and know that if we once contrive to have it used results are certain. Accordingly it is our aim to get a sample of 3-in-1 into individual hands. We select a certain class of people and devote ourselves to them. For instance, we have just finished mailing sample bottles to 25,000 dentists. It makes a total of more than 900,000 of such samples that we have sent out since October 1st last. And we follow up the samples. We have separate sets of "follow up" literature for each class we aim to reach.

"It is expensive matter, illustrated and printed in several colors, but it is our idea to impress people favorably, and cheap or shoddy printed matter will not do it. While we are spending money we spend it rightly. But we do not believe in extravagance. If we took some experts' advice we would put all our money into one year's campaign.

But I believe that it is possible to obtain only a certain ratio of increased business each year and that it is wiser therefore to spread \$100,000 over four years than to jam it all into one. I happen to know that some of the biggest advertising splurgers are away behind their expenses. It takes time to build up a business, and if I remain here ten years I expect to see 3-in-1 as well known and as widely used as Castoria and the rest of them. It will take just about that long to build it up to that point.

"None who lacks enthusiasm in his business and belief in publicity is likely to rise to any great height. Luck occasionally enters into the case, but not often. Luck, that is the "craze" helped make the fortunes of many bicycle manufacturers, and the money came so quickly and so easily that most of them seem to believe that the business no longer requires enthusiasm or publicity. They apparently forget that there are hundreds of thousands of children growing up and reaching a bicycle age. I, myself, have three of them. They hardly know one bicycle from another, and no manufacturer is doing anything in particular to arouse their enthusiasm or to fix his particular bicycle in their young minds. I probably will buy bicycles for my children, but if cycling was marked by some of the enthusiasm and publicity that obtained a few years ago, they would undoubtedly be clamoring for them instead of but half-interestedly waiting until I get ready to make the purchases."

A. B. C. Stocks Soar.

Not since the American Bicycle Co.'s securities were listed on the New York Exchange have they displayed such strength and been so freely traded in.

During the week ending April 5, 19,650 shares of common stock, which advanced from 3 $\frac{7}{8}$ to 5 $\frac{1}{2}$, 9,661 shares of preferred, advance from 19 to 22, and 192 bonds, par value at \$1,000, changed hands, the bonds rising from 59 $\frac{1}{2}$ to 64. On Monday of this week the stock was one of the most active on the list, and on sales of 7,865 shares of common it advanced from 5 to 6 $\frac{1}{2}$, and on sales of 4,181 shares preferred, advanced to 22 $\frac{1}{2}$.

The cause of the activity is problematical and "insiders" profess to know of no reason other than that the widespread reports concerning the renewal of cycling interest make the securities a "good gamble."

How it is Going in Hartford.

The difference between the trade of this year and last year is further instanced by the sales of Andruss & Hermann, the Racycle agents in Hartford, Conn. Up to April 1, 1901, they had sold two machines, this season they have already sold thirty. R. E. Page, a hardwareman of the same city, who took on bicycles late last fall, has sold thirty bicycles since the season opened. It will be recalled that March of last year was a not unseasonable month, the rain that ruined the season prevailing during April and May.

REGAS "CATCHES ON" ABROAD

Big Export House Obtains Control—Sager Views the Situation and Risks a Prophecy.

The Regas spring frame is the most recent American invention to win foreign recognition of a substantial nature. Small lots which had been sent abroad gave such a good account of the device that its makers, the Regas Vehicle Company, Rochester, N. Y., quickly heard from several large export houses who sought to obtain control of its sale abroad.

After weighing the several propositions, the well known firm of Guiterman, Rosenfeld & Co., of this city, who have also branches in London, Paris and Hamburg, were awarded the plum. J. H. Sager, the head of the Regas Vehicle Company was here last week and consummated the deal. It conveys to Guiterman, Rosenfeld & Co., the exclusive rights to the sale of Regas fittings in Great Britain and Continental Europe.

Following the quick and substantial results obtained in this country, Sager is naturally much elated.

"I have never had to do with anything that gave such general satisfaction," he said. "The only complaints we have had have been on the score of our not being able to keep pace with orders.

"There is no longer the slightest doubt that the public is ripe for just a popular-priced spring frame as ours. I have yet to see the man who did not become enthusiastic after trying it. If riders can but be induced to put aside prejudice and try it the result is rarely in doubt; in fact, I honestly believe the spring frame will be the standard model of the near future. It would be the case now had not the spring frames of the early '90's been such eye sores."

The extent to which the Regas frame has "caught on" in this country is not generally appreciated. But the fact remains that it is being used and supplied by some twenty manufacturers, including such notables as the Miami Cycle and Manufacturing Company, Wisconsin Wheel Works, American Cycle Manufacturing Company, John R. Keim, Kirk Manufacturing Company, Hendee Manufacturing Company, Arnold, Schwinn & Co., Julius Andrae & Sons Co., Milwaukee Cycle Company, Sherman Cycle Company and Bean-Camberlain Manufacturing Company.

Holley Adopts Money-Back Guarantee.

While it was known that the Holley Motor Company had made a practice of returning the purchase price to any dissatisfied buyer of the earlier Holley motor bicycle, it was not as generally known that the fact was put into the form of a guarantee. This, however, proves to be the case and satisfaction-or-money-back is now the language and the substance of the Holley guarantee.

FEBRUARY 28, 1902.

NATIONAL CYCLE MFG. CO.,
BAY CITY, MICH.

GENTLEMEN :—Last May I bought from your local agents, Messrs. Chadwick & Morris, one of your chainless models with cushion frame and coaster brake attached.

After nearly a year's use it gives me great pleasure to tell you that the bicycle has given me complete satisfaction, and I believe that for ease in running and durability it cannot be excelled. I have ridden nearly all winter and have given the bicycle more severe usage this winter than months of use in the summer time. For about one month this winter I think my wheel was about the only one seen on the streets of Lockport, and during that time I have ridden the wheel over places that would put an ordinary wheel out of business. When you consider that I weigh nearly 200 pounds and that I rode over frozen roads and always at a fair rate of speed, you or anyone will agree that it was a good test of strength.

I have ridden bicycles for upwards of seventeen years and have owned or ridden nearly all of the leading makes, and can add nothing further in commendation of your wheel than to say that after the year's experience I have mentioned I am thoroughly satisfied with the National Bicycle.

Yours truly,

(Signed) AMOS H. GARDNER.

SATISFIED RIDERS ARE OUR BEST ADVERTISERS.



FISK TIRE TALK.

Fisk Tires could not be made any better. The best material and workmanship is used and their superiority in construction easily places them at the head of high grade tires.

YOU CAN MAKE NO MISTAKE IN USING THEM.

FISK RUBBER COMPANY, Chicopee Falls, Mass.

BRANCHES:

BOSTON, 604 Atlantic Ave.	SPRINGFIELD, 40 Dwight St.	NEW YORK, 83 Chambers St.	PHILADELPHIA, 916 Arch St.	SYRACUSE, 423 So. Clinton St.
BUFFALO 28 W. Genesee St.	DETROIT, 252 Jefferson Ave.	CHICAGO, 54 State St.	SAN FRANCISCO, 114 Second St.	

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00
Single Copies [Postage Paid] . . . 10 Cents
Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, APRIL 10, 1902.

Their Reward in Sight.

For quite a number of years now the trade has been counting on the fact that old machines would wear out eventually and have to be replaced by new ones.

That even the best machines differed from the "One Hoss Shay" was generally admitted. They must wear out sooner or later, and the only question was when would that time come. As year after year passed, and riders hung on to their old mounts, the faith of the dealers remained unshaken. This being so, the time must come when they would be winners.

It looks as if they were at last about to reap some reward for their patience.

As long as these machines were rarely, if ever, ridden, merely slumbering away peacefully in odd corners, they were not likely to be replaced. But let a season come when they were brought out, dusted off, oiled and put in service again, and their deficiencies would be revealed and steps taken to repair them.

If the promise the present season holds

forth is borne out by subsequent events there will be many of these machines replaced.

To hasten on the auspicious event it is only necessary for the impression that is now abroad—to wit, that a moderate but none the less real revival of interest has really set in—to gather force and sweep the wavering ones into line.

Once this impression takes firm hold, the new machines—the coaster-brakes, cushion frames, chainless or other novelties—comparatively speaking, will do the rest.

The Motor Bicycle Situation.

As the season advances it is made clearer that there is a tremendous interest in motor bicycles that requires but slight scratching to be developed.

This statement is based on information from many sources, and may safely be accepted as a caution to those manufacturers who are holding aloof to hold aloof no longer. They have much to learn, and the sooner they learn it the better, as one thing is reasonably certain—there is no article of a cycling nature that ever made its appearance in which the experience of the manufacturer will appeal more forcibly to purchasers.

This year will be largely an experimental year, next year the buying year, and the maker who then launches a new motor bicycle will start with a heavy handicap.

The "tremendous interest" we refer to is what may be termed the "talking interest" of tens of thousands who are merely waiting to see that motor bicycles will do what is claimed for them. Some of them will surely do so, and the sceptics of this year as surely become the buyers of next year.

The "purchasing interest" of the present season will account for all the bicycles in sight—perhaps more—but it is not to be denied that scepticism is the rule. This extract from a personal letter from a rider—not a dealer—in a considerable city is an apt illustration of the existing situation:

"What we want is ocular demonstration. There is not a motor bicycle in this city of 60,000 people, and so far as I know I am the only man intending to get one. None of the dealers seem able to get one without buying it outright and taking their chances of its proving good or bad, and this they appear unwilling to do. One of them bought one last year, and it proved no good. Crowds flocked to see it on its arrival, and if it proved what was claimed for it quite a number stood ready to purchase. But it

proved otherwise, and now the general impression is that motor bicycles 'mote' only when they feel like it and cannot be depended on. Once ocular demonstration disproves this impression, the motor bicycle will get a foothold and the outcome is certain. I have talked with other riders, and am in position to prophesy."

This letter really speaks for itself. The motor bicycle that demonstrates itself this year will start the ensuing season devoid of the heavy load of doubt and earn its reward; the new ones that must carry the load will have very much more to overcome.

It is our firm belief that the Boston to New York endurance run on July 4 and 5 next is an opportunity which none can afford to miss. It will afford the very demonstration that is required and give the "tremendous talking interest" the very scratching that will cause it to "break out" in the form of actual purchases. If you are not preparing for it, it will be the better part of wisdom to set about doing so. It will give your bicycle a reputation and standing that will serve your interests to good purpose when you are ready for the demand.

About Factory Management.

There is one class of mechanics for whom there is always room in a well ordered factory. These are the men who have the managing faculty. Like poets, the successful managers of men are born, not made. Their ability is intuitive rather than acquired. They have the aptitude, faculty, knack, call it what you will, of administration and leadership. They command the respect of those under them. Of necessity they are strong willed, but are neither oppressive nor arbitrary in the exercise of this quality.

Tact and good judgment are always used when coming in contact with the men under them. In walking through the factory wrongs are observed without apparent effort and corrections made without being boisterous. Instructions are given with a clear understanding of the temperaments of the men under them and without a surly fling at a workman's ability. Ruling themselves dispassionately in all their acts, they rule the men under them with even temper and a clear sense of justice.

The domineering, snarling superintendent who "jacks" his men up on every slight provocation is usually the one who creates disloyalty not only by these acts, but because he is also generally of the kind who constantly grumble before the men about the

manager above him, and is equally free with his back handed compliments of the proprietor. These side remarks rarely reach to the office, as the workmen who are not absolutely servile soon leave for other shops, while those who remain are too abject to let out their knowledge.

Men of this kind have a certain vogue for a time, because they are pyrotechnic in their seeming force of character. They hold their positions just so long as conditions favor them in their management of production. When the time comes, however, as it is bound to come, that faulty or delayed product makes itself felt with the selling end of the business, then there is apt to be a rude awakening.

The forceful character whose whirlwind methods have only raised dust that settles back until the next trail is made through the factory becomes a seeker for some new position. His self-confidence has led him into promises beyond his ability to perform. The proprietor finds competitors discounting his ability to deliver, and works through his establishment until he locates the cause.

True it is that these conditions do not prevail to any great extent in establishments that have been running for any length of time, although they can occasionally be found even there. In new establishments and in new industries, however, they are of more frequent occurrence than is generally realized. With concerns of these two classes too much can hardly be claimed for the importance of the man or men in charge of production.

Close, inside study, if it were possible to make it, would often reveal that failure to score as a commercial success was due to poor superintending; to the man whose force was all on the outside; to the man who had greater ability to damn his men and sneer at his superiors than to rule with firmness but good temper.

Confined to no Class.

To the close observer one of the most striking things in connection with the revival of interest in wheeling is the cosmopolitan character of the crowds.

They include probably every class of men and women. Among the former both knickerbockers and long trousers are to be seen; sweaters without coats and negligee shirts with immaculate collars and neat neckties and coats; the riders of the fair sex wear short skirts of correct cut and length, equally

with divided skirts and—be it said with bated breath—even a few bloomers.

In short, the riders come from every walk of life, every "circle" of society. The exclusive set no longer cycles in great numbers, but neither is it conspicuous by its absence. Nor are the bulk of riders of the "rag, tag and bobtail" class, as some critics of the pastime would have us believe. Their undue—and unwelcome—prominence no longer obtains.

So, too, does the character of the riding indulged in cover the widest possible range. The mileage fiends are noticed occasionally, as are the "butterfly" or park riders; but they form only a small portion of the whole. In larger numbers are seen riders who are bound for the country—packages and bundles telling plainly of lunches being strapped carefully to convenient places on their machines. Very young people—frequently in company with their parents—form a very important part of the procession.

Any one who thinks that a period has been put to cycling, or that the "nice people" have all given it up, or even that only the class we have during the past two or three years grown into the habit of calling the "regulars," who, finding in cycling the most easily purchased if not the only notoriety they can acquire—if there be any who entertain any of these ideas, let them stand for half an hour or so on some one of the popular cycling routes and be quickly and effectually disabused of any such impression.

Enthusiasm and Publicity Needed.

As being worthy of more than passing notice, we make this extract from an interview with Mr. J. Noah H. Slee, which is published in another column:

"None who lacks enthusiasm in his business and belief in publicity is likely to rise to any great height. Luck occasionally enters into the case, but not often. Luck, that is, the 'craze' helped make the fortunes of many bicycle manufacturers, and the money came so quickly and so easily that most of them seem to believe that the business no longer requires enthusiasm or publicity. They apparently forget that there are hundreds of thousands of children growing up and attaining a 'bicycle age.' I myself have three for them. They hardly know one bicycle from another, and no manufacturer is doing anything in particular to arouse their enthusiasm or to fix his particular bicycles in their young minds. I probably will buy bicycles for my children, but

if cycling was marked by some of the publicity and enthusiasm that a obtained a few years ago they would undoubtedly be clamoring for them, instead of half interestedly waiting until I get ready to make the purchases."

There is not one word of these several assertions that the men of the trade should not digest thoroughly. They state the case tritely and well, and in their references to the rising generations throw into bold relief a situation that many of those most vitally interested have viewed with scant appreciation, if any.

As we remarked only last week, there was never a time during recent years when a display of real enthusiasm and an outlay for publicity promised happier or more productive results. But, as we instanced on the same occasion, it is only the price cutters here in New-York, where the wave of renewed interested was given its start, who apparently realize the fact and are spending the money necessary to attract the profits that ensue. More than this, were are in position to say that the club which was organized for the purpose and which enlisted this newspaper support that money cannot buy, and which has directly and indirectly contributed to the result, and is arousing a glow of real enthusiasm that is spreading with the days, has not been accorded even the courtesy of a reply to its communications by very many in the trade who are reaping benefits from its efforts, and who will reap more rather than less.

Words are pretty common things. Dictionaries are cheap, and adjectives of the most superlative kind are to be had nearly as freely as air. Anybody who pleases can write about "lowest prices," "largest assortment," etc. The novice has as many high-sounding phrases at his command as the man who has grown old in the business. What it really settles down to, after all, is not what a firm says, but what it does.

Lateral rigidity and vertical elasticity—these are the antithetical virtues which will probably obtain in the to-be perfect bicycle.

If foreign exchanges are to be taken as a criterion, this season is due to see an almost universal revival of cycling.

The desire to rest from the ennobling fatigues of labor will call forth many a motor bicycle.

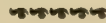


MODEL 74 PRICE \$30.00

Orient Bicycles

KNOWN THE WIDE WORLD OVER.

WRITE FOR HANDSOME NEW CATALOGUE



APPLY FOR AGENCY

WALTHAM MFG. COMPANY, WALTHAM, MASS.

Our Agency Proposition is Unequaled!

THE CHIEF CONSIDERATION ON THE PART OF THE

'BUFFALO, SR.' AUTOMOBILE.



Model 7. Price, \$800.

HAS 6 H. P. MEDIUM SPEED MOTOR.

For **PROFESSIONAL MEN,**
BUSINESS MEN,
and **FAMILIES.**

DEALER

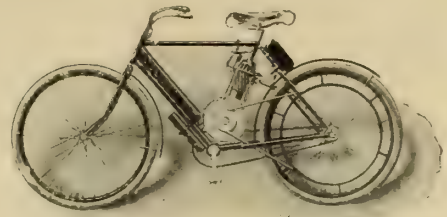
is the question of

PROFITS.

We Offer:

Up-to-Date **DESIGN.**
First Quality **MATERIAL.**
Best **WORKMANSHIP.**
Superior **EQUIPMENT.**
Unsurpassed **GUARANTY.**
Exclusive **TERRITORY.**
Absolute **PROTECTION.**
Prompt **DELIVERY.**

"AUTO-BI" MOTOR BICYCLE.



Model 4. Price, \$175.

Has 2½ I. H. P. Motor; is belt-driven,
which is the

Favored Transmission
FOR MOTOR CYCLES.

THOMAS WORLD RECORD MOTORS.

Send for Catalogs and Testimonials.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, 1200 Niagara Street, Buffalo, N. Y.

ROLLED AWAY THE CLOUDS.

(Continued from page 43.)

ply Co. Mr. Flavelle said the owners approached the National Trust Co. to place before the public the Canada Cycle and Motor Co. An agreement was entered into, and the National Trust Co. undertook to arrange for the underwriting of \$2,000,000 preferred stock, any further amount to be arranged for by the proprietors, who took \$500,000. As a matter of fact, Mr. Flavelle said, the stock was oversubscribed about three times.

Mr. Flavelle went on to show that certain stockholders who had bought the stock on speculation became embarrassed and unable to hold, their selling making the market weak. The National Trust Co. and their associate underwriters then proceeded to buy the stock which was thus offered by weak holders, and in this way \$250,000 of the stock was bought at 97 to 100 and taken from the market. There was never a share of this sold to the public.

Subsequently a syndicate, composed of Senator Cox, J. W. Flavelle, A. E. Ames and Walter Massey, purchased further about \$160,000 at 92 to 100, and took it from the market. Of the \$500,000 taken by the original proprietors not a share has gone from their hands with but two exceptions. Senator Jones disposed of \$45,000, and a dissatisfied subscriber, who had not received the share he thought he should have, went to Senator Cox, who undertook to provide for

him. The other directors, however, would not give up a share of their holdings, and Senator Cox surrendered \$75,000 of his \$100,000 and later increased his holdings in the open market. So far as he could remember, there was no concerted buying after 1898. Over \$1,300,000 of the \$2,500,000 is now held by the directors and their friends.

Speaking of the payment of \$175,000 in unearned dividends last year, Mr. Flavelle explained that it was a mistake on Mr. Massey's part, he having advised the other directors that at least \$150,000 was fully assured out of the season's business. Mr. Massey's calculations were based on the same system as at the Massey-Harris works, but proved a mistake, the cost of making each wheel being \$3 more than his estimate, the selling costing \$3 more and the whole realizing \$3 less. The difference of \$9 on 24,000 wheels amounted to over \$200,000.

The Canada Cycle and Motor Co. lost \$280,000 through the absorption of the National Cycle Co. This company had become heavily indebted to the American Bicycle Co., and that company, to protect itself, proposed manufacturing at the Hamilton factory. To prevent competition the Canada Cycle and Motor Co. bought out their rivals. The loss was held to be a necessary one.

Some of the shareholders expressed dissatisfaction because of the absence of Senator Cox and other directors, but it was explained that it was deemed desirable for them to stay away owing to the fact that

proceedings have been taken against them in the civil courts.

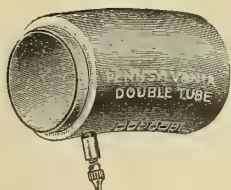
The general opinion was that there was nothing to do but to discountenance the rumors, and in consequence the following resolution was unanimously adopted: "Moved by Henry O'Brien, seconded by Hugh Sutherland, that this meeting, having heard the explanations of the chairman and the president with entire satisfaction, are of the opinion that, whatever mistakes of judgment may have been made, there has been in our opinion entire good faith in the action of the directorate in the inception and management of the company, and that it is desirable in the interest of the shareholders, and as a matter of justice to the directors, to give them our hearty support and confidence in the future."

Brooklyn Organizes Motorcycle Club.

The list of motorcycle clubs has been added to in the organization of the Alpha Motor Cycle Club, of Brooklyn, N. Y. At its first meeting the club enrolled nineteen members who own motorcycles and eleven members who are awaiting the delivery of machines. The club has decided to be well represented in the motor bicycle run from Boston to New York to be held on July 4 and 5 by the Metropole Cycling Club.

The officers of the Alpha Motor Cycle Club, elected at the first meeting, are: President, Henry P. Macrery; treasurer, George A. Smith, 1106 Fulton street, Brooklyn, N. Y.; recording secretary, Andrew Wallace; captain of runs, George M. Fisher, jr.

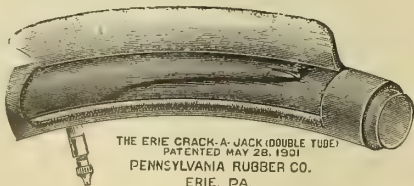
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK (DOUBLE TUBE)
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

PENNSYLVANIA
Rubber Company,
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO

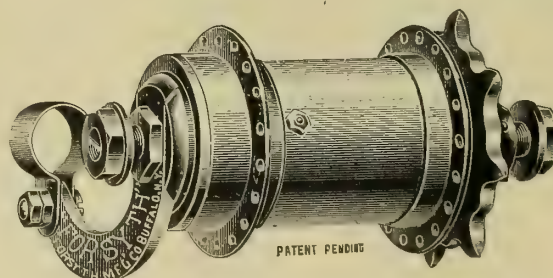
BOSTON
PHILADELPHIA



We have been trying for a good many weeks
to tell you of the all 'round goodness
of the famous

FORSYTH

Adjustable Coaster Brake



The performance of the brake itself is more
convincing than anything we could say.

BETTER TRY IT.

FORSYTH MFG. CO., BUFFALO, N. Y.

RULES FOR COASTING

Regulations That Will Govern the New York Contest—How Interest is Spreading.

It is now practically certain that the Metropolitan Cycling Club's coasting contest on May 10 will prove an affair of magnitude and abundantly serve its purpose, that of adding to the renewal of cycling interest and enthusiasm.

Thanks to that steadfast friend of cycling, Jacob A. Cantor, now President of the borough, authority has been obtained to conduct the contest on Manhattan Island—that is, in the city of New York proper—which means that the event will be easily accessible to contestants and spectators. It is believed to be the first time, certainly the first in very many years, that such permission has been granted. Heretofore New-Yorkers have been forced to go to New Jersey or Long Island when an event of the sort was on tapis.

The course chosen is a hill some 2,700 feet long on Boulevard Lafayette, a magnificent and comparatively new highway little known and little frequented by cyclists. With the scene of the contest so close at hand and with a long prize list, which includes four bicycles, and the daily press giving it generous notice, the affair promises better than any cycling event held during the last few years.

Inquiries for copies of the rules that will apply also indicate that there will be contests of the sort in other parts of the country, and much additional interest and enthusiasm thus grow out of the New York project. The rules in question are as follows:

When possible, contestants shall be started in twos at about one minute intervals.

They shall be started by a push off from a tape at the start.

They shall steer as nearly as possible a straight course. No tacking, or zigzagging nor "sculling" with arms, legs or body shall be permitted. Such practices shall be adjudged cause for disqualification.

No contestant shall take another's course unless he be at least three full yards ahead of the other; any fouls committed in this regard shall be sufficient cause for disqualification.

There shall be no recall or restart unless in case of accident or foul, as adjudged by the referee.

No contestant shall be permitted to start who bares either arms or legs.

No extraneous weights or aids shall be permitted to be attached either to the cycle or its rider.

When contestants reach the limit of their coasts and come to a stop they shall remain with at least one foot on the ground until a judge shall have noted the distance coasted, which distance shall be taken, at the point in line with front axle.

The riders of the two bicycles with coaster brakes who coast furthest shall be restarted in one heat and the riders of the two bicycles with fixed gears who shall coast furthest shall be restarted in another heat. Of these four contestants, he who then coasts the greatest distance shall be given first choice of prizes. If he shall prove to be a rider

with fixed gear, second choice shall go to the winner of the heat for coaster brakes, or vice versa. The second men in these heats shall be given their choices in the order of their finishes in said heats. Choice of all other prizes shall be allotted in the order of the distances coasted by the respective riders.

Protests must be filed with the referee only and within one-half hour of the protestant's finish and by the contestant in person.

The officers shall be a referee, three judges, one clerk, one starter, three measurers, three recorders and such umpires as the referee may consider necessary.

The referee shall direct and supervise the contest, pass upon and decide all fouls or protests and any points not covered by these rules.

The judges shall be stationed at the foot of the hill, and shall note and designate to the measurers the point of finish of each contestant. In case of dispute a majority shall decide.

The clerk shall see that contestants' numbers are properly affixed to their backs and that contestants are called and duly lined up at the tape for the start.

The starter shall lay the tape at the starting point and give the word to start at intervals of about one minute.

The measurers shall measure the length of each contestant's coast and report the results to the recorders, who shall keep account thereof.

The umpires shall be stationed along the length of the course to observe and report to the referee any infractions of these rules.

Entries will close May 5 with A. G. Ibbeken, 27 West 124th street.

Mossberg's Rose-Hued Report.

"We are glad to indorse the attitude of The Bicycling World with regard to the revival of cycling, etc.," writes the Frank Mossberg Co., "the indications with us being very promising in that direction, the season's business thus far justifying us in looking forward to an unusually good season.

"We have just doubled the capacity of our nickeling and polishing plant, and have been obliged to increase our facilities in every department. Our bell sales are considerably ahead of last year, and our wrench sales about double. The new 'Eagle' pipe wrench, which we are introducing this season, is creating considerable interest in the trade. It is being catalogued and handled by nearly all the first class jobbers, and re-orders are coming in steadily. We have never introduced a new thing of the kind for which we have had anything like so many inquiries from individual users all over the country. Our No. 10 "Cuckoo Chime" handle bar bell, which proved to be the most popular bell on the market last year, is having a largely increased demand this year, while our No. 12 "Electric Chime" bell and our tire bells show very satisfactory gains. All told, trade with us is very encouraging, and we are looking for some lively business from now on.

"These facts indicate that either Mossberg goods are in exceptionally active demand or else that the bicycle sundry business is considerably better than last season, and points to a big revival of cycling. Anyhow, we are very decidedly of the opinion that you are sizing up the situation intelligently, and that your predictions are going to be amply verified."

WANTS MOTOR TANDEM

Van Arsdale Reports an Active Demand Which None can Fleet.

If any man doubts that a real demand exists for the machine which the Bicycle World has so often urged on the trade, the motor tandem, he has but to talk with Henry Van Arsdale, the Eastern representative of the Wisconsin Wheel Works, to have his doubts dispelled.

"I have been surprised at the number of calls I have had for them," he said, "and not from scorchers or racing men, but from substantial men who want them for pleasure. Most of them desire combination tandems for the use of themselves and their wives. I have been urging the factory to build them, and really feel so strongly on the subject that if the factory refuses I shall probably make arrangements to have them built elsewhere to my order. The demand is too profitable to permit to pass unheeded.

"Motor bicycles generally? We have been getting our full share, and cannot complain on that score. The factory will turn out 100 per month hereafter, and we will have no trouble in disposing of all we can make. We could dispose of a good many more if we paid heed to one-tenth of the people who are trying to get them free. The Bicycling World printed something I said regarding the matter once before, and I can assure you the facts were not overstated, nor have the schemers lessened their efforts. The last one who tried to 'work' us was a minister. These people and the dealers who want motor bicycles on consignments are as numerous as leaves on the trees.

"But there is no lack of intending purchasers, and what the motor bicycle needs now is actual demonstration to convince these probable buyers and sceptics generally that it will do what it is claimed it will do. I have two men in this city who are doing nothing else. They will go anywhere the prospective purchasers desire, let them see the bicycle in actual operation, teach them to ride and in every way demonstrate the practicability of the machine, and the more of this that is done the better it will be for all concerned.

"Yes, dealers are growing wiser, but there is plenty of room for improvement in that direction. We had one of them return our machine because he said it moved too fast, and another removed and dissected the induction coil and demanded another because he said he found that it contained wire of two different sizes. There is small use arguing such points. We simply 'make good' and say nothing."

Will Coast in Boston, Too.

As was expected, the force of example is telling. Boston will hold a coasting contest, but, unlike the New York event, it will be open not to individuals, but to teams, and will thus prove a distinct novelty in itself.

THE "TRADING" SYSTEM

Brockton Does not Wholly Agree With Philadelphia but is Watching Things.

That it is the abuse of the trading system, and not the system itself, that is to blame, as pointed out in the *Bicycling World* a few weeks ago, is the opinion of a number of Brockton (Mass.) dealers, as pointed out by a local paper.

"A paragraph was called to the *Enterprise* man's attention a few days ago which told of the combination that had been formed among the dealers in Philadelphia, they declaring that they will hereafter take no more second-hand wheels in exchange for new ones and allow anything for them," it says.

"A trip was made among some of the local dealers, and those found in were asked for an expression of opinion in the matter. It seemed to be the general sentiment, when the question as to whether all dealers would not eventually come to the Philadelphia way of thinking, that things were going along at the present time in as smooth a manner as could be asked for.

"One dealer said that he believed that it would be a distinct loss if the practice was adopted in this city, he believing that a large percentage of the riders would ride their wheels two or more seasons rather than purchase new each year.

"He said that there was a good demand for second-hand wheels, and that, while in many cases it was necessary to dispose of the wheel that had been traded in for some less than was allowed for it, he felt that on the whole the merchants could well afford to do it.

"The chief trouble is that the dealers have to allow in many cases much more than the wheel is worth, and this is brought about through the manufacturers listing the new mounts much nearer to the cost price to the dealers than was advisable. If they would put the price in their catalogues up somewhat it would be possible to get a little more for the mounts, thus making up for the high allowances that had to be made on the out-of-date wheels.

"The move of the Philadelphia dealers will be watched with interest by every dealer in the country, however, and if they report at the end of the season success it is safe to say that many other cities will take up with the same scheme."

Don't Pump too Hard.

A tire is said to be at its greatest resiliency when inflated to a pressure of 27½ pounds per square inch. Its resiliency or elasticity is then about 90 per cent. At a pressure of 20 pounds to the square inch the resiliency is 80 per cent, and it increases as the pressure is increased to 27½ pounds. For higher pressures it decreases, so that at a pressure of 40 pounds it is of the same resiliency as at 20 pounds. Greater pressure

reduces the resiliency very much. From this it may be deduced that board hard tires do not give the best results; and as it has been shown that the resiliency is the same at 20 as at 40 pounds, the lower figure should be adhered to. Of course, the pressure depends on the weight, and as the latter is increased so must the pressure.

In the above data the compiler fails to state the weight of the rider for whom the pressure is suitable.

As a Pacing Machine.

The motor bicycle is apt to come in for considerable demand as a pacing machine, and the following equipment is suggested to prevent accidents should the hanger-on run up onto the rear wheel of the pacing machine: From each end of the rear axle run a steel rod back to a point about six inches beyond the tire and seven inches above the line of the wheel axles. Two more rods should run from the seat post cluster and meet the first two rods to form two parallel triangles. In the outer ends of the rods have holes that would take rear wheel axle, and on this mount a roller of about ten inches in diameter. By using hub cones and cups this roller could be made ball bearing if desired.

Should the hanger-on come up to close to the pacing machine the tire of his front wheel would touch the roller free to rotate in an opposite direction, thus setting up no friction to throw him, as is the case with the rear wheel of the leading machine.

The face of the roller should be crowned just the least bit, so that its tendency would be to work the rear machine to one side and away from the roller gradually.

Johnson's Experience.

The experiences of J. H. Johnson, of Buffalo, N. Y., who has flown the standard of the National for a good many years, and who this year added the Orient line, is not one whit behind that of other dealers who have consistently stuck to it. Mr. Johnson's business to date has more than doubled that of last year, and as he handles very few of the cheaper grades of wheels, the character of the trade speaks for itself. He, too, reports that a large number of former customers are not only "rubbering" around this year, but have actually bought. A *Bicycling World* man's visit to the store confirmed this statement fully; last Saturday, despite the fact that it was a cold, rainy day, seventeen high grade wheels were disposed of during the afternoon and evening.

Hall on Mail-order Bicycles.

E. H. Hall Co., of Rochester, N. Y., the largest jobbing house in Western New York, is still another concern which is feeling in high feather and whose business has already more than doubled itself. This concern has never lost faith in the bicycle business for one instant, but has kept persistently at it year after year. In commending the *Bicycling World's* hammering at mail order house methods Mr. Hall laughingly admitted that so far as his ouse was concerned, nothing would please him better than to see ten thousand mail order bicycles sold in Western New York. "It would mean good business for us," he said, "as every one of them would be in a repair shop within a month."

THE PEDALLING POSITIONS

How Study and Experiment is Amply Repaid—Some Suggestions of Value.

Ease in pedalling is a most important thing in hilly districts at all seasons of the year, and will add materially to the comfort of riding in level districts during the summer months. No one likes to get uncomfortably heated, yet it is the rider who least desires it that generally arrives at that state. It would seem that these people would prefer to pedal in a manner that would obviate this disagreeable feature, yet none of them apparently take the trouble to inquire. Too often they have been taught by people ignorant in the art, and have got into a habit that, like all others, is allowed to run on without a care of results.

After all, proper pedalling is a simple matter if only a little thought is given to the matter and a little time devoted when starting out for the first few rides. The leg is perfectly suited to the up and down motion, but the foot must be used to transform this movement into the circular motion that the pedal follows. The average rider contents himself with the plunge of the leg, and only gets an effective working through a quarter of the stroke, the remaining three-quarters being non-productive. The foot with its flexible construction from the ankle on is perfectly designed to convert the up and down movement of the leg to the circular movement of the pedal.

By utilizing the foot as it should be the rider can get a power stroke for considerably over half the circle, and in extreme cases for practically the entire circle. To accomplish this the ankle serves as the pivot, and the heel is dropped just before the top position is reached. The toes are then gradually dropped in advance of the heel as the forward half of the revolution is made, until at the bottom of the circle the heel is in a raised position.

By carrying out this practice it will be seen that at the top dead centre a forward thrust can be given, while at the bottom dead a clawing action can be had. With both feet working in unison an immeasurable increase in power is obtained with a decreased exertion. If dealers would give this subject attention with their customers they would find less tendency on the part of their customers to give up at the first warm spell.

Will the Tandem Revive?

Who said that the tandem was dead—deader even than cycling? The calumny is being refuted every week. Old two-seaters which have apparently reposed peacefully in cellars for years are being brought out and made to do service again. Is it an enduring revival or merely a result of the enthusiasm of the early season, to be followed by apathy in a little while?

ARE THEY WORTH RECUTTING?

The Question of the Hacksaw—One man Affirms That They are and Tells why.

The average cycle repairer uses probably as many hacksaws as any workman in the land, and, as is the case with files, he finds it a difficult thing to decide whether it pays better to throw them away once they have become unfit to use or to recut them and make them go through a second period of service.

Almost any workman will tell you that it is pretty nearly an even thing. The cheap hacksaws, costing but a few cents, will do a certain amount of work, and they can then be tossed into the scrap heap. A better article will cost two or three times as much, and will not wear a great while longer, but then they can be recut. But does it pay to do this? Will the time expended on recutting come back in the shape of a longer term of service? It is so hard to demonstrate this unmistakably that the course is frequently taken of using the cheap kind and throwing them aside as soon as their edge is gone.

Some light is thrown on the subject by a workman, who writes to a contemporary as follows:

"In 1886 or 1887 one night after hardware stores were closed a piece of iron came to me to be cut off. Now, I always carry a frame and some saws, whatever shop I happen to be in, as there are shops where it doesn't pay to keep them for all hands to use, and so they are not kept. The ones I had were at this time too dull to cut, there was no place to get any, and a saw was the only thing that would do this particular job.

"As a last resort I tried sharpening the saw on the corner of the dry grindstone. It was one of those hard saws—the Griffin. The saw when ground finished the job. Since then I have ground all my hacksaws. The emery wheel is best and quickest. I have ground the Griffin saws from three to nineteen times for cutting of steel, iron, brass, etc. The bluebacks are not the ones to try this on, as in drawing the temper from the back it also to some extent softens the cutting edge.

"In one shop where I worked over six years I used the saws brought to me by the sweeper, and the men in the shop would come to borrow my saws, because they said they were the only ones that would cut, outside of brand new ones, and better even than some of them. The edges of the saws looked outrageously rough and irregular, but they would cut. Why they would cut so well I cannot say, but I am able to prove it to any doubting one, or he may prove it for himself by trying it."

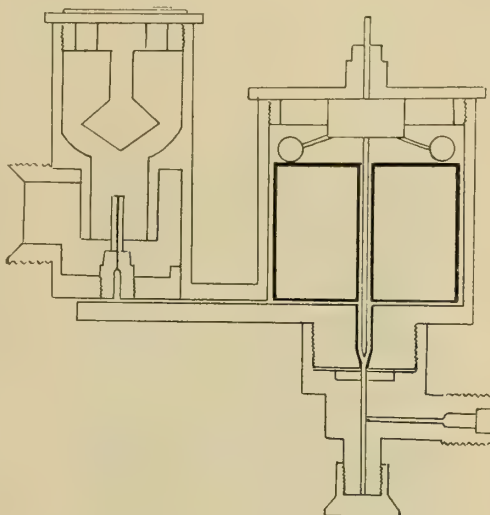
The G. W. Cole Co. is again putting up 3-in-1 in one ounce, ten-cent bottles. They abandoned that size for a three ounce twenty-five cents bottle, but henceforth will market both sizes.

Float Feed Carburetter From Abroad.

Float feed carburetters in their use on automobiles have proved so successful that motor bicycle makers have turned their attention to them in a few instances, reducing them to a commensurate size.

The carburetter here shown is made by the sponsors for the Kelecom motor, and has the claim made for it that it is not only certain in action, giving perfect mixture during even sudden atmospheric changes, but that it is extremely economical.

In the float chamber the needle controlling the supply of gasoline passes through a central tube in the float and is held off its seat by two balance weights. In the small cham-



ber just below the seat of the needle valve is a wire gauze strainer to arrest any particles coming with the gasoline through the feed pipe, just below and at right angles to it. The straightaway down pipe has a cap at its end, which can be removed for cleaning the needle valve passage.

The float chamber has a cross passage to the spraying chamber, and the gasoline issues in a fine stream and strikes against the two-way atomizing cone. Air is admitted through an adjustable cap at the top and is deflected by the top part of the cone. The mixture then passes down around the spray nozzle guided by a sort of baffle wall that reaches to a point just below the center of the outlet to the motor.

It is hardly necessary to explain that the gasoline is kept at constant level in the float feed chamber by means of the weighted float. Immediately the level of the gasoline drops the float drops with it and the needle of the valve is raised and more gasoline admitted under the float.

Wilson is Himself Again.

J. C. Wilson, of the Rubber Goods Mfg. Co., is again at his post in New York. He has just recovered from a three months' siege of inflammatory rheumatism which kept him abed most of the time.

NO MORE CHEAP TIRES

Why Sager Will not Sell Them or Even Keep Them in his Store.

It is a matter of more than local knowledge that the Regas Vehicle Co., of Rochester, N. Y., accounted for an unusually large retail trade last season. The total sales of new bicycles reached well above 700.

"I think we will do as well this year," said J. H. Sager, the head of the Regas establishment, who was in New York on Saturday last. "We would undoubtedly have done better, but Rochester is now being flooded with cheap bicycles, and the effect they may have on the season's business makes prophecy unsafe.

"As for ourselves, we have taken a firm stand not only against cheap bicycles, but cheap tires. We handle no bicycle that lists at less than \$30, and we simply will not have anything to do with an unguaranteed tire. We used a lot of them last year and our experience cost us dear. I think we replaced about every one that went out.

"Of course, we were not bound to do it, but our trade is too large and too valuable for us to permit it to become disgruntled, so we simply ripped off the cheap tires and substituted good ones without cost and without question. It decided our policy. This year we have not a cheap or unguaranteed tire in our store. We simply will not sell them. When customers call for them we tell our story, and if they still insist on having the cheap stuff we tell them as courteously as we know how that they will have to buy it elsewhere."

When Dealers "Feel Good."

That the general revival which the *Bicycling World* has chronicled week after week is not confined to the East alone is shown by the experience of Collister & Sayle, of Cleveland, O., who are among a number of dealers approached in the Middle West, and whose expression is typical of the general experience in that section.

"How's business?" replied George Collister, repeating the *Bicycling World* man's query. "I find it hard to believe myself, but it reminds me more of '95 and '96 than anything I had ever hoped to see again. Our sales this month have doubled those of last year, and the best of it is that the business has been done on the high grades too. Former customers who had given up riding are coming in again, and I tell you it makes a fellow feel good to see it; and after all," quoth the Cleveland man, "I think selling bicycles depends a good deal on the way you feel about the business yourself. This year, as the *Bicycling World* says, renewed confidence and good cheer is in the air, and as we are feeling good we seem able to imbue prospective buyers and the result is naturally gratifying."

FORGING AND BRAZING

How Both may be Carried on in the Same Hearth—The Backing-up Materials.

Perhaps the most useful combination for general work is the hearth upon which forge work and brazing can both be carried out equally well. For nearly all brazing operations the blow pipe will be found more effective than the ordinary fire, and for bicycle work generally decidedly the best.

The combined hearth is a distinct advantage where a heavy joint is being brazed up, as a small fire can be kept underneath the work, while the blow pipe is directly upon it. There are various shapes and sizes of such hearths upon the market, and from practice the preference is given to one with a 20 or 24 inch square pan about 9 inches deep and constructed of 14-gauge sheet steel. This pan is bolted to a framework of L angle iron well stayed up, the bottom of the pan being supported by two cross stays. Within the framework and below the pan are a pair of 16-inch circular bellows fixed to cross stays on the framework.

A simple lever arrangement with foot attachment operates the lower part of the bellows, while the pressure from the top part can be regulated by a couple of spiral springs or by weights. The latter is the best method, as the weight can take the form of an iron plate, which will protect the top of the bellows from scorching should the bottom of the pan become hot.

On the left side of the hearth a pipe provided with a stopcock is in connection with the cast iron fue-iron, which is, of course, fixed to the inside of the pan. On the right is a similar pipe, also provided with a stopcock; to this the flexible rubber tube to the blow pipe is attached.

When used as a forge alone the right hand cock is turned off and the left one on, and the fire is made up. For brazing purposes the left cock is turned off and the right one on. When both fire and blow pipe are to be used both taps are turned half on—the fire being first got up to the required size—and it is as well to put an extra weight or two on top of the bellows, so as to increase the pressure, the bellows having double duty to do. A 11-16 inch hole cut in the bottom of the pan toward the left hand corner, so as to miss the edge of the bellows, is very convenient for brazing up front forks. The stem can be dropped through this hole and the backing-up stuff piled around it, and a rapid and perfect brazed joint can be made. A bit of sheet metal should cover the hole when not in use.

Different men have different fancies for backing-up material when brazing. Here is a list of the various materials and combinations used: Fireclay bricks for backing up; broken fireclay for filling in; also small coke and asbestos cubes for filling in. Large coke for backing up, small for filling in,

Bed of small coke, and bed of asbestos cubes.

Many prefer the fireclay backing, and a good filling in of hard coke, broken to the size of a walnut, and free from dust. Soft coke is almost useless, as it does not retain the heat so well as the harder kind, besides which it rapidly goes to dust, which is not long in finding its way over everything.

For forge work such as is generally done in bicycle shops a mixture of good coal and hard coke gives very good results, and does not clinker so rapidly as coal alone.

Conveying a Suggestion.

How to induce riders to "give up the old for the new" is really one of the knottiest problems evolved by the altered spirit of the times. It is not easy of solution, but it is something done toward the end to get the mere idea of "making a change" into their heads, and to so shape one's advertising is

Why Ride That Out-of-Date Bicycle

WHEN

.....

are to be had at such reasonable prices and on such easy terms. This is an age of progress. Manufacturers of the—— have kept pace with it. As a result, the —— of 1902 embodies many improvements and refinements that contribute mightily to cycling comfort and pleasure.

Be up to date and get the benefit of them.

one way of inserting the necessary wedge. The accompanying "sample ad." will at least convey an impression of what may be done in that direction.

This principle of making an ad. convey an idea or suggestion calculated to make the rider think is one that more dealers may well consider. Too many of them, and, incidentally some manufacturers, are steeped in the belief that when a bicycle is advertised as "Fast," "Light," "Simple," "Strong," "The Acknowledged Leader," etc., etc., it is well advertised, when as a matter of fact it is not half advertised. An ad. should be made to say something, to convey an idea or suggestion, or to arouse the curiosity and inquiry that lead to sales.

Bicycling has taken on a new lease of life in England also. Easter week, which marks the opening of the riding season in that country, showed record breaking musters on all the club runs.

OLD FRAUD RENEWED

Offender Jailed and may Prove the Uncaught Culprit of the Boom Days.

While not definitely decided that it is the same man, there was arrested at Middletown, N. Y., on Saturday, one Oscar D. Tredwell, a petty swindler who has revived the same scheme that was worked in the boom days. If not the same man, he is a close student not only of his predecessor but of the revival in cycling interest.

After successfully working his game in Orange, Sullivan and Ulster counties, just as in earlier days it had been worked in New York, Connecticut, New Jersey and Pennsylvania, as a bicycle directory swindler Tredwell was landed in jail at the above place and time.

Two years ago, at Tredwell's solicitation, James V. DeGraff, an Ulster County hotel keeper, paid Tredwell the required fee to have his name entered in a big book and to have a bicycle rack for the use of touring wheelmen placed in front of his hotel. Neither was received. On Friday DeGraff, while out driving, happened to stop at the Terwilliger House, in Bloomingburg, and whom should he meet there but Tredwell, plying the same game.

Recognition was mutual, and Tredwell jumped into his rig and drove to Middletown. DeGraff swore out a warrant and followed in another rig with a constable. They were five minutes too late, for Tredwell had boarded a westbound train. An officer followed with the warrant and brought the offender, who is past sixty years of age, back from Port Jervis.

When the Motor Misfires.

Now that rainy spells are liable to come out of sunshiny skies, there is a possibility of an occasional misfire when riding a motorcycle. In all probability the trouble won't be with the spark controller or any of the connections. Look to the spark plug, and see that it is not so covered with water that a circuit is set up between the outer end cap and the body. Wipe the plug thoroughly dry and the trouble will probably disappear.

If the motor has been running for some time this will likely not be the cause, as the heat will be sufficient to keep the plug dry in spite of a heavy downpour. The trouble will then be elsewhere. The above rule only applies when running very slow or when first starting up.

Another effect of riding in the rain is to bridge broken circuits, such as at the grip and safety plug connection. When riding this has no special bad effect. In fact, it may be said that it insures better electric circuits. When the plug is removed or the grip turned off, however, these points should be looked to, otherwise the batteries will be materially weakened.

MEASURING HORSE POWER

The Apparata and Methods in Vogue—How the Rider may Arrange a Test.

The term brake horse power, generally expressed in print by the cabalistic letters b. h. p., is a term common enough in the talk of moto cyclists, but it is a question if it is clearly understood as a general rule. As a matter of fact, technical men are, as a rule, more or less dissatisfied with the expression "horse power," and are generally coming to the use of the term "power units." The first term continues to be the one generally used, however, from long association, if nothing else.

Without going into the history of how it was first arrived at, horse power is based on the raising of 33,000 pounds one foot in one minute, thus giving the definition that power is "a rate of doing work, and is made up of three factors—weight, distance and time."

In the gasoline motor the power available at the pulley is made up of small force impulses rapidly repeated. The high speed thus arrived at gives power in the shape of leverage multiplied by speed. At the motor pulley we have high speed and small available leverage, and by means of gearing down larger leverage is obtained at the expense of reduced speed.

From the above the natural thought comes that by raising a certain weight through a given distance by means of the motor, and timing this operation, the power could be determined. This is the principle used, but in a modified and convenient form. The apparatus consists of a cord, a spring balance, a set of weights, a speed counter and a watch.

Therefore, when a motocyclist buys a bicycle and he is told that the motor is of so much indicated horse power (i. h. p.), he can get the b. h. p. if he cares to arrange for the test. In factories the motor is usually bolted to a rack for this purpose, but with the cyclist this would be inconvenient and would require the ability to dismantle the machine and reassemble it again. These operations would not pay the owner in the long run, and the work can be done in a much simpler manner.

The bicycle should be supported in a rigid position, so that the motor pulley is at least 18 inches above the floor. The spring balance of the kind ordinarily used around the house to weigh packages, reading from one ounce up to about two pounds, should be attached to the floor at its hook end. The cord, ordinary $\frac{3}{8}$ -in. sash rope, should have one end attached to the ring at the top of the balance and then pass over the motor pulley, from the front. The other end should hang down from the back side of the pulley and be attached to a plate that will carry the weights. The weights can be of any convenient shape, and should total at least 35 pounds. The speed counter is of the

usual type, with a point center to fit the center in the motor axle. For timing the second hand of an ordinary watch will do with a little practice.

After the motor has been started, either from the saddle or by pulling it over by rapidly turning the rear wheel or the cranks, the belt should be slipped off and the cord put in position over the motor pulley. The ends of the cord should be as nearly parallel as possible.

With the motor running at its best speed, as much weight is put on the free end of the cord as will be possible without materially altering the speed of the motor. The speed is then timed for four or five minutes, the speed for each minute being noted, and the following formula worked out: Subtract from the total of the weights the reading on the balance and multiply this by 22 and then divide by 7; this result multiply



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

by the average of the speed readings, and this by the diameter of the pulley—at its pitch line—in fractions of an inch. The b. h. p. will then be found by lastly dividing by 33,000.

As an example: If the weights totaled 30 pounds 4 ounces, the spring balance read 4 ounces, the speed averaged 2,100 revolutions per minute, and the pulley diameter was 3 inches (.25 of a foot), the brake horse power would figure $1\frac{1}{2}$. To insure greater accuracy, several tests should be made, and the average then be struck. In making the several tests the motor should not be run for more than five minutes at a time, and should be given time to cool between each test, as it is being worked under conditions that do not obtain when riding. That is, it has not the cooling opportunities that it has when being ridden along outdoors.

"Inclosed is our subscription to The Bicycling World. We take a great deal of interest in it, and do not care to be without it. The way you get after the 'Cheap Johns' who are selling '\$40 bicycles for \$9.28' is all right, and we trust you will keep it up.

"The Goddard & Allen Co., Beloit, Wis."

STORY OF A BARGAIN

Why a Second-hand Motor Bicycle Changed Hands Quickly—Spark Plug the Joker.

"What is that story I heard about your buying a nearly new Orient $2\frac{3}{4}$ motor bicycle for something more than half its price?" asked the man who is going to ride of the one who poses as an old time motocyclist.

"Once upon a time, as story writers put it, but, to be more exact, last fall, I had occasion to travel in the Middle West. I had my motor bicycle with me, and naturally a good sized crowd gathered around the machine at the hotel. During a dissertation on its merits one member of the audience remarked that there was a big machine in town, but that it wouldn't run, and the owner had put it away in the barn in disgust. It had only come to him some ten days previously.

"After my demi-tasse that evening I hunted up the owner, and without introducing myself for fear of a rise in the market I got permission to look over the machine. In as careless a way as I could, I tried the compression and found it all right. I then took a shock through the secondary wire at the outer end of the plug and found a good current.

"Fortunately at this moment the owner was called to the house, and I had that plug out in the shake of a lamb's tail. Well, it was like a coal heaver's hat, not as it should be, like that of the miller's of nursery rhyme. I got things in place before his return, and we then adjourned to a room off the office of the hotel. After a flowing discussion of ways and means I bought the bicycle for \$175. The next day I was riding it around town."

"Had a spare plug with you, I suppose, and put it in?"

"No. When I looked at that plug I knew all I needed to do was to get into the kitchen of that hotel the next morning. What do I mean? Well, let me tell you. The first time I ever had a fouled spark plug it was fouled for fair. It was as black and greasy as anything you can imagine. And I don't mind telling you that I had pedalled that bicycle many weary blocks trying to make it go. During my struggles there flashed across my memory a trick I had once seen an old fisherman do to clean out a clay pipe. He just put it on the fire and burned it clean.

"That remembrance explains my morning's sojourn with the hotel stove. I laid the plug on the coals, and in about fifteen minutes I had a plug as clean and white as when it left the hands of the assembler. The next time you have a fouled spark plug try this remedy, and thereafter you will never use any other."

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

ODDS AND ENDS

According to reports, bicycles finished in aluminum instead of enamel will be popular in England this season.

A spring frame racing bicycle is to be put on the English market, and its performance is looked forward to with considerable interest.

A mile match between the riders of a motor bicycle and an ordinary tandem pair should provide a good side line for a race meeting this year.

"Plugger Bill" has had his Albion Hotel bar fitted with electric light, in addition to the gas incandescent lights.—(Australian Cyclist. And such is fame!

Demester, on a motor bicycle, has covered a lap on the new Buffalo track, Paris, in 15 1-5 seconds. This is at a rate close up to forty-five miles an hour. The power of the motor is not given in the dispatches.

"Bill" Martin has been sued by his trainer for \$250, or 15 per cent. of his winnings in the Austral Wheel Race. It appears that Martin promised the man \$300 with which to start a barber shop, and then gave him but \$50.

A thrilling performance is that of a one-legged trick rider who, after riding up and down a flight of stairs, appears on a platform seventy feet above a tank of water, into which he drops, bicycle and all.

Court Edwards, a trick rider, of California, proposes to ride a unicycle trick wheel from Fresno to San Francisco. The distance is something like 200 miles, over some pretty tough roads. The ride will certainly prove an endurance run for man, wheel and tire.

The H. J. Koehler Sporting Goods Co., Newark, N. J., are now marketing what are described as "the real thing" in racing suits. They are French knit goods that are both durable and well appearing and that are sold at "the prices that please."

Stinson returned from France on Saturday last full of bitter disappointment. He got a hot cinder in his eye on the steamer going over and it proved so serious that he was unable to race at all. The report that Bonhours, the French crack, had come over with Stinson is untrue.

At the Atlanta Coliseum April 3, before an audience of 7,000 people, Walthour defeated Leander in a five-mile motor paced heat race, winning first and second heat with ease. In the first Leander quit after going two and one half miles, not being able to hold the pace. Walthour finished in 7.54. In the second heat Walthour's time was 7.52, which is heralded as "indoor record." In the one mile professional race, Fenn finished first; Hunter, second, and Caldwell, third.

About Crank Lengths.

Touching on the subject of the proper ratio of crank length to gear, a rider who came in during the safety days contends that "the question of long cranks exercised the mind of the cycling public even prior to the days of the safety. About the year 1885 there was considerable discussion on the matter, and it is within memory that 7-inch cranks were used on 54 and 56 inch ordinaries. Those who tried them found them too long and discarded them. Needless to say, the ratio between 7-inch cranks and a 56-inch wheel was much greater than that recommended nowadays by the long crank advocates."

He is a bit off as to the old high wheels, for the cranks on them rarely exceeded 6 1/2 inches, and nearly always were less than this. The great majority of them had a throw of between 5 and 6 inches. Of course, this does not attack the ratio allegation, and if this were carried out logically the 70 and 80 inch gears of to-day would require longer cranks than are commonly fitted to them.

It is interesting to recall, too, that the old ordinaries nearly all had a variable crank throw. The slot in the crank end was long enough to allow about one-half inch variation, instead of, as at present, being just large enough for the pedal pin.

For a number of years even the safeties were equipped with cranks of this kind. But when the light weight movement set in the cranks were marked out for reconstruction, and the long slot disappeared forever.

Punctures That Come Not.

It is surprising how much puncturing material a rider can come across in a day's ride and yet escape scot free. Early season riders are encompassed with dangers of all kinds, and the wonder is that there are not more mishaps than is the case. The roads have a winter's accumulation of debris—old cans, nails, broken bottles and other tire destroyers—on them, and it will take a month or two for them to be swept up or ground into and mixed up with the surface of the roads. In a recent ride bunches of finely ground glass were encountered a half dozen times, and never were they discovered in time to avoid them. The fatal sound of escaping air was expected to be heard on each occasion, but the fears were never realized.

Don't Overdo it.

Many young men are smitten with the racing fever about this time of the year, and feel a longing for the stern delights of the race path. Extreme care should be exercised by these enthusiasts to first discover whether they are constitutionally sound and capable of standing the immense strain which modern racing puts upon the body. A good, healthy pair of lungs and sound heart and a cool head are the principal requisites for success, and unless the embryo racing man feels that he possesses these he should steer clear of racing. Judicious training will, of course, benefit rather than injure these organs, but moderation and common sense are rare virtues in the young.

THE RETAIL RECORD.

Sodus, N. Y.—C. H. Ward opened store.
Waterbury, Vt.—B. Lavelle opened shop.
Orange, Mass.—G. M. Pratt, slight fire damage.
Bryan, O.—Vane Kensinger succeeds Sam Folk.
Charlotte, Mich.—T. C. Rulison opened shop.
Westfield, N. Y.—H. W. Blowers opened store.
Bellows Falls, Vt.—George Andrews moved to Oak street.
Salem, Mass.—Edward J. Boyle moved to Laskey Building.
Allentown, N. J.—Walter Conine opened store on Main street.
Columbia, Pa.—N. C. Righter opened shop on Chestnut street.
Rockland, Mass.—George Smith opened store on School street.
Seneca Falls, N. Y.—W. W. Clarkson opened store in Cruise Building.
Bowling Green, Ky.—W. B. Atkinson & Son opened store on State street.
Lancaster, Pa.—Lancaster Cycle Co. moved to 170 North Queen street.
Columbus, O.—Charles Hanover Cycle Co. changed name to Charles Hanover Automobile Co.
Flora, Canada—Frank Drury opened store.
Concord, N. H.—G. F. Hodgman opened store on School street.
Northumberland, Pa.—William J. Bloom opened store at corner of Front and Hanover streets.
Mattoon, Ill.—J. F. Mallory, small fire loss.
Traverse, Mich.—Zeran & Culman opened store on South Union street.

Hammer for Repair Shops.

A soft metal headed hammer should form a part of the equipment of every retail shop and store. Nothing annoys a careful cyclist more than to see the plated parts, or any part of a finished machine, banged about by a common hammer to the ruination of bolt heads or threads and other parts.

The soft headed hammer takes several forms, and one of the most popular for use on plated parts is one built up with a piece of iron pipe with an internal screw thread at either end. Into this are screwed faces composed of rawhide, which had been tightly rolled and compressed. An ordinary hammer handle is fixed to the iron piping. Another form is one having a cast head of white metal. This is also a useful type for many purposes.

Recent Incorporation.

New York, N. Y.—Favorite Cycle Co., with capital of \$10,000. Directors—Nicholas Komow and Adolph Corn, Brooklyn; Lena Weisman, New York.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

WHO WANTS TO TOUR?

If Six Motocyclists say the Word, Elwell Will Make all Arrangements.

With the permission of the editor of the *Bicycling World* I have something to suggest to the riders of motorcycles, and after this has been carefully read I would like to hear from all motocyclists who may become interested, and should I receive sufficient encouragement I would at once put the matter into definite shape and make the necessary arrangements.

As is possibly known to many readers of this paper, I am an organizer and conductor of European tours (particularly bicycle tours), and have been for many years. I have conducted cycling parties from the days of the old high wheel, and have used in turn every style of bicycle as they appeared from year to year. When I think of the difference between the safety of 1889—on which our first European tour was made—and the bicycle of to-day, with its pneumatic tire, cushion frame and coaster brake, I am filled with admiration for the skill and ingenuity that has brought about such a marvellous improvement. Yet in spite of the weight and crudity of construction of the bicycles of 1889 it was a glorious trip. We nearly broke our backs pushing the 56-pound bicycles, loaded with baggage, over the highways of the Old World, but by the time we reached Cologne no one had an ounce of superfluous flesh, and every member of the party could easily do from fifty to seventy-five miles day after day and see the sights besides. There were breakdowns innumerable and some accidents to the riders, but every one got through safe and sound at the end. The tours of later years have been most delightful picnics in comparison, but the pluck and interest of the early riders were what spurred on the inventor toward perfection.

I believe the motor bicycle to be one of the greatest forward strides in bicycle construction, and that it will attract to the ranks of cyclists a great class of new riders even as the safety and pneumatic tire swelled the cycling army on their advent. It will also call back many old riders who have of late been lukewarm in their interest. For many good reasons the motorless bicycle will continue in widespread use, but the motored one fills the longing for excitement and allays any feelings of envy of the automobile. I am making my plans for a motorcycle tour in Europe next year, and until within the last two days have had no idea of a tour this year.

But such a suggestion has been made recently, and if it appeals to others as strongly as it does to me a most delightful and interesting event will be the result. This is the idea: The city of Portland, Me., has for many years been a winter port for the Atlantic steamers that during the summer run

to Montreal. Now, one of these great steamer lines has established an all-the-year-round passenger service between this port and Liverpool. For this service they have furnished enormous new steamers with great freight carrying capacity and accommodations for a limited number of first class passengers. Naturally they wish to secure patronage for this new line, and are making every effort to do so. While looking over one of these new boats, in company with the Portland agents, I spoke of my interest in the motor bicycle and that I was making arrangements for a European tour on them next year. "Why not go over this year on these boats?" was at once suggested; "we will use you well." "Not time enough to make arrangements for such an extensive tour as I have in mind," I replied; "and motocyclists this year are few in number compared to what they will be next. Besides, much of my time is spoken for." "Well, can't you arrange a short trip for those who might like to go this year?"

I said "I could" to this, and that I thought such a tour would be most delightful, provided a pleasant party could be secured for the following trip: Leave Portland about the middle of August, land in Liverpool and spend a month on the roads of England and France, going to Paris by one route and returning by another, over some of the finest highways in the world. In a general way the route would be as follows: Liverpool, Chester, Shrewsbury, Worcester, Gloucester, Bath, Salisbury, Southampton, cross channel to Havre, Rouen, Versailles, Paris (four days here). Return via St. Germain, Beauvais, Amiens, Arras, Boulogne; cross channel to Folkstone, Ramsgate, London (four days here), Oxford, Leamington, Stratford-on-Avon, Warwick, Coventry, Birmingham, and so back to Liverpool. The cost of the trip from Portland back to Portland would be but \$250.

This would mean first class passage each way, only one or two in stateroom, transportation of cycle, board and lodging at fine hotels throughout the trip, passage of self and bicycle both ways across the channel, transportation of trunk to London and Paris. At these figures I should land in Portland with no more money than when I started, for there would be no chance for profit, but there is a grand opportunity for a delightful trip. To me it would be very interesting to watch the operation of the various makes of motor bicycles on an extended tour over uniformly good roads, and, as in the early days of the safety, there would doubtless be endless discussion as to the relative merits of the various makes.

The route is a grand one—every step of the way is beautiful and interesting. It would be the first tour of the kind, and to make it a grand success I would do all that my many years of experience have taught me to be necessary. Every detail will be most carefully looked after. It would be a fine thing to do and I should enjoy it thoroughly. If one wished the tour could be continued to Ireland. There is a World's Fair being held in Cork this year. Why not go?

F. A. ELWELL, Portland, Me.

TRIED ON THE DOGS

How the Coaster Brake Crank Proved a Point Against Fixed Gears.

"Of course, I don't expect to convince you," remarked the coaster-brake crank to the fixed gear advocate. "I am too mindful of that always misquoted saying, 'A man convinced against his will remains of the same opinion still,' which, as Butler wrote it, was 'He that complies against his will is of his own opinion still.' However, as I was saying, I don't expect to convince you, for you are determined not to be convinced; but I am going to give you an example that ought to convince you.

"Going in Bedford avenue, Brooklyn, the other day were two riders, side by side, one on a coaster-brake, the other on a fixed gear machine.

"Into the street just ahead of them stepped a man with two dogs. One was a big St. Bernard, the other a spaniel. The latter ran ahead of his owner, the former stalked along leisurely in the rear. Between them the three took up pretty nearly all the middle of the road. The two riders I refer to were coming at a pretty good gait down the hill. Seeing the obstruction ahead they both prepared to avoid it.

"The fixed gear man back-pedalled sharply, thus slowing his speed to about one-half what it had been, then waited to see if the dogs and the man got out of his way. The other rider stopped pedalling just as quickly as did his companion, but he did not slow. He merely held his pedals in such a position that he could apply his brake quickly should it become necessary, and, like the other rider, waited to see what would happen. As it turned out, the dogs did not cut any pranks; therefore the two wheelmen rode by without mishap, one in front of, the other in the rear of, the bunch.

"But the man with the fixed gear was some forty or fifty feet behind his companion, and had to pedal to make up the distance.

"Now, that just illustrates my point," concluded the coaster-brake enthusiast, triumphantly. "The fixed gear rider had to back-pedal and then to hurry to catch up, expending in these two efforts some altogether unnecessary labor. The other man prepared for trouble, but, none appearing, he went on, and not an ounce of effort was wasted. Therefore I argue that the coaster-brake was superior."

Bread and Water for a Thief.

For stealing a bicycle, a Fostoria, Ohio, thief was given the rather odd sentence of ten days' imprisonment on bread and water. Later the sentence was suspended on condition that he return the money secured from the innocent purchaser of the bicycle.

The Proper Doses for Spring.

The harm that results when riders start in too early and too earnestly to get in shape after a long season of inactivity is cleverly pointed out by the cycling man of the Brockton (Mass.) Times.

"The man with the pussy willows from his own farms, the sound of the first robin's sweet notes, the hand organ, the boys playing marbles, the millinery store windows, all agree in announcing that spring is at hand, and that the bicycle will soon be in style and in general use," he says. "While the invigorating weather is loosening up the kinks, or you think that it is, take the advice of a wheelman and don't commence active work on your bicycle for a few more weeks. Let the other picture come before you mount your silent steed and seek the country roads.

"The early spring birds, the pussy willow, the notes of the robin, and the cheery kid in the mud playing marbles are all very nice, but a bicycle in the mud is a different picture, and a man doubled up with cramps and rheumatism is another scene that is liable to follow if you follow your early inclinations. The paved streets and macadam roads of the centre of the city give one an idea at first that everything is lovely, and a ride would do more good than harm. But don't be like the little, innocent child, who thought all the world was good because everything in her own home was. The belief doesn't hold good in this cold world, and especially if you are looking for it on a bicycle, on a spring day before the frost is all out of the ground, but is fast getting out and making a surface on the best of the roads that is separable from itself, but harder to divorce from the clothing. There is also a chill that arises as the frozen ground thaws that strikes deep, though it is not noticeable at the time.

"There are many riders who ride all the winter and do not get cold, and many may start in to ride now and dodge the general effects. If you are going to start in forget

for the time that you are an American, who is naturally in a hurry, whether he is or not. Take it easy, work out gradually. You will acquire strength for long rides much quicker, and it will stay with you. You are liable to get a little lame, anyway, from your first rides, but you will have less trouble with light work.

"This advice is as applicable to the men getting ready to race as the man who rides simply for pleasure. A hard ride too early in the season will play sad havoc with a man's muscles. Don't delay ordering your mount, however, as there are many others who have already ordered theirs, and you may not yet have your mount before the season is well on if your order is not in. There is a large call for the best of the wheels enumerated in the Times advertisements of to-day, so take warning."

Here's a Hearty Indorsement.

Pleasant days in the early part of the present week revived memories of delightful excursions by bicycles in other spring days; trips through the countryside, when the air was still keen enough to whet the appetite furiously, and the wind blew with a gentle force that dispelled the mental cobwebs which had collected during the winter behind desks and in dingy offices, says the New York Evening Telegram.

There are times when the man who imagines he has given up cycling shuts his eyes to all that is beautiful in nature and tries to persuade himself that attention to business prevents him from taking those delightful little journeys into the land of trees and green grass. Sooner or later he finds what a ridiculous dunce he is making of himself and resumes his cycling, much to his physical welfare.

All signs point to a greatly increased force of wheelmen on the highways and in the parks this year. Cycling may not always be a fad, but it is without question one of the most pleasant forms of exercise devised for mankind.

The Times Delivers an Opinion.

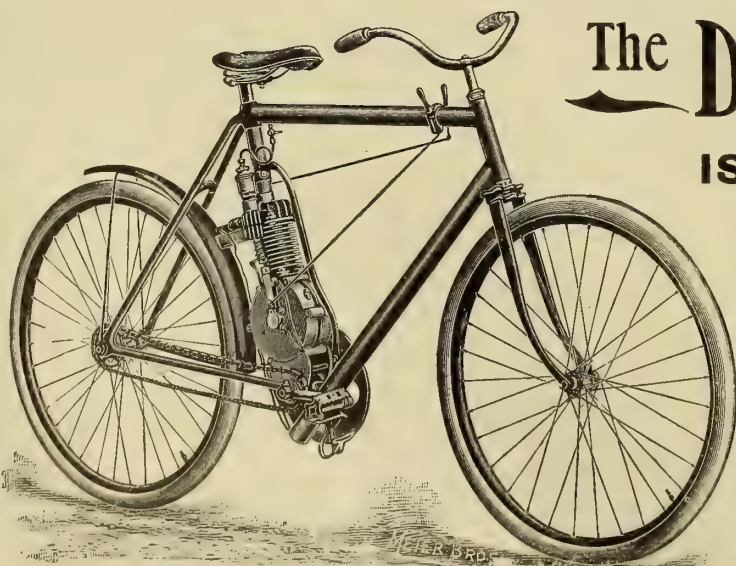
Speculating upon the future of the cycle, as revealed by the increased interest noticeable almost everywhere, The Times says editorially:

"There seemed to be some reason, last year, to think that the bicycle was threatened with the fate which overtook the roller skate. Certainly its popularity had enormously decreased, and not one of the machines was in use when the season closed for each hundred that could be seen the year before.

"The prospective complete abandonment of one of the most admirable of human inventions were eminently displeasing, and it is with relief that people of philosophic minds will hear the present reports that the bicycle trade is 'looking up' and that the coming summer promises to see a revival of interest in the vehicle with so many merits.

"The vogue of the bicycle grew too fast and spread too far. It became a fashion and a fad, and innumerable people rode for whom more than a very little of such exercise was injudicious, and almost as many more to whom a considerable amount of it would have been beneficial, exhausted themselves by journeys longer, harder and more frequent than reason justified. Injury and disgust were the natural consequences, and the bicycle suffered most unjustly in the popular esteem. But the harm done, apparently, was not irreparable, and recognition of the marvellous machine's real merits as a means of both business and pleasure has survived in enough minds to save it for another and wiser trial.

"With the best bicycles at moderate prices, and the inclination to misuse and abuse their possibilities conquered at last and before it was too late, they ought to regain the large favor they certainly deserve. There is a place for this instrument of locomotion, and it is one which neither horses nor automobiles will ever fill. Whatever happens, the impetus to the building of good roads that was given by the bicycle should never be forgotten."



PRICE, \$200.

The De Long Motorcycle

IS NOT AN ICE WAGON.

IT IS LIGHT, STRONG, DURABLE,
AND IS
VERY SIMPLE TO OPERATE.

MR. BICYCLE DEALER:

Do you want the agency for your town? There is a good profit for you.

INDUSTRIAL MACHINE CO., Phoenix, N.Y.

"Freak" That Refuses to Die.

"There must have been good stuff put into that famous old 'pyramid' bicycle—the one with the frame towering up in the air twelve or fifteen feet," remarked an old rider the other day.

"I met it Sunday, going out Bedford avenue, Brooklyn, on the way to the Coney Island cycle path. The rider was in company with a bunch of cyclists, pounding up the hill at a good, steady pace; and he held his own apparently with perfect ease. In fact, but that he was perched up so high, he looked just like his companions. His gear appeared to be about the average, and his position on the machine was that of the regulation rider. It excited a lot of attention as it went along. People on the sidewalks stopped and watched it until it was out of sight.

"How many years is it, I wonder, since that machine made its first appearance? It was a number of years ago, of course; it seems to me that I first saw it somewhere around '93 or '94. Then it was a 'freak,' used just for advertising purposes.

"This rider handled it marvellously well. The street was filled with wheelmen, teams and pedestrians, but he threaded his way in and out with perfect self-possession. He seemed perfectly at home; apparently he must have ridden the machine considerably to have acquired such confidence. There was an advertisement tacked on the frame—some kind of patent medicine, I think it was. But the rider appeared to be out for a spin, just the same as the hundreds of other wheelmen encountered during the day."

Balls and Separators.

If the cups and cones in ball bearings are allowed to indent, it is clear proof that the bearing is overloaded, and here lies the principal secret of the successful running of ball bearings, says a writer of standing.

There are other conditions, of course, principally referring to the material wherefrom the balls and ball races are made, but in general ball bearings are made too small in all their parts for the load they are expected to carry. The friction between the balls themselves is a difficulty, and particularly so when high speeds are to be dealt with. To overcome that difficulty it is necessary to separate the balls by means of properly arranged cages, which, if done, absolutely removes this difficulty or trouble.

In a properly constructed ball journal bearing, a proper cage placed therein to separate the balls absolutely dispenses with any friction as between the balls themselves, and it is a strange fact that the cage itself will not touch either the cup or cone, because the balls cause the cage to float in the clearance space provided. Of course, the cage is given sufficient margin, both internally and externally, and, furthermore, the continued running of such a cage shows practically no evidence of friction produced by the balls revolving within it.

The Week's Exports.

Heavy shipments to Great Britain and France marked the cycle exports of last week; in the first instance the value was some \$20,000, in the other \$14,500. These, with shipments of \$5,600 to Denmark, \$5,200 to Germany and \$3,800 to Holland, made the week a notable one. The record in detail follows:

Antwerp—24 cases bicycle material, \$824.
Amsterdam—109 cases bicycle material, \$3,140.
Abo—70 cases bicycles, \$1,751.
Bremen—4 cases bicycles, \$95.
Bale—22 cases bicycles and material, \$340.
Brazil—2 cases bicycles and material, \$165.
British East Indies—4 cases bicycles and material, \$147.
British West Indies—106 cases bicycles and material, \$2,660.
Cuba—4 cases bicycle material, \$260.
Copenhagen—180 cases bicycles, \$2,196; 100 cases bicycle material, \$3,458.
Central America—2 cases bicycles and material, \$56.
Christiania—6 cases bicycles, \$126; 3 cases bicycle material, \$179.
Dutch Guiana—14 cases bicycles and material, \$351.
French Possessions in Africa—1 case bicycle material, \$80.
Genoa—13 cases bicycle material, \$897.
Glasgow—30 cases bicycles, \$930; 1 case bicycle material, \$50.
Hamburg—209 cases bicycles, \$5,108.
Havre—240 cases bicycles, \$11,229; 136 cases bicycle material, \$3,342.
Liege—20 cases bicycle material, \$906.
Liverpool—13 cases bicycles, \$350; 2 cases bicycle material, \$40.
London—115 cases bicycles, \$4,251; 192 cases bicycle material, \$10,760.
Messina—1 case bicycles, \$30.
Mexico—3 cases bicycles, \$169.
Rotterdam—15 cases bicycle material, \$689.
Stockholm—2 cases bicycles, \$100.
Southampton—103 cases bicycle material, \$3,969.
St. Petersburg—4 cases bicycle material, \$198.
Stavanger—17 cases bicycle material, \$1,025.
Uruguay—2 cases bicycles, \$1,050.
Turin—55 cases bicycles, \$825.
U. S. of Colombia—4 cases bicycles and parts, \$175.

French Knit Racing Suits.

WE ARE SOLE MANUFACTURERS.

DEALERS WRITE FOR PRICES.

H. J. KOEHLER SPORTING GOODS CO.,

845 Broad Street, NEWARK, N. J.

DIAMOND TIRES
FOR

Carriages, Automobiles and Bicycles.

Made in AKRON, OHIO, by

THE DIAMOND RUBBER COMPANY

**50,000 PAIRS
TIRES**

READY FOR DELIVERY

AT

\$1.50

\$1.75

\$2.00

**Order your tires where
you can get deliveries
and right prices.**

**EYE-OPENING
PRICES ON SUNDRIES**

**will be mailed to Dealers sending
in their business card.**

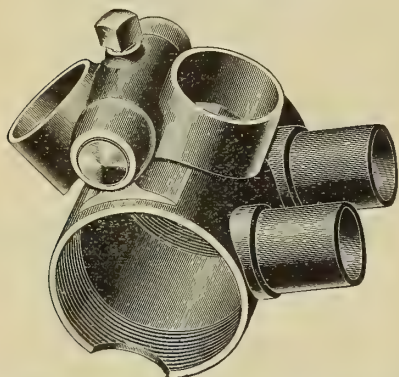
**Write us for
PRICES
on
Marsh Motor Bicycles**

WE ARE ESTABLISHING AGENCIES.

WILLIS
Park Row Bicycle Co.,
23 PARK ROW,
NEW YORK.

Fauber Hinge Bracket

*for Cushion and Spring
Frame Bicycles.*



The hinge parts are made of forgings. Bearing points are wide apart lessening chance for lost motion.

The hinge pin is a hardened and ground taper pin. Bracket for 1 1-8 in. and 1 in. tubing fitted to all styles

FAUBER HANGERS

FAUBER MFG. CO., - Elgin, Ill.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN

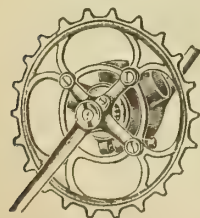


NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.



"D. & J." HANGERS



FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

The 1902 Light Weight Oil Lantern.
STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY
THE NATIONAL CEMENT & RUBBER MFG COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

WANTED—Everyone interested in motor bicycles to purchase "Motocycles and How to Manage Them." Contains 126 pages bristling with information. \$1.00 per copy. For sale by The Goodman Co., 154 Nassau St., New York City.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
423 Broome St., New York

Upon receipt of 40 cents in stamps we will mail one dozen of the MAGIC as a sample trial to any part of U. S. A. Ask your jobber for it.



Bicycle salesmen wanted to handle the MAGIC as a side line.

THE MAGIC REPAIR TUBE CO., 248 LARRABEE ST., CHICAGO, ILL.

50 BICYCLE ADS.

They are reproductions of Ads that have brought us trade. Catchy headlines. Attractive wording. Ready for the printer. They will surely bring customers. Try them. Stamps taken. Address H. P. TOWNLEY, TERRE HAUTE, IND.

ARNOLD, SCHWINN & CO.
CHICAGO.
WORLD BICYCLES.
Jobbing Wheels a Specialty.
LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

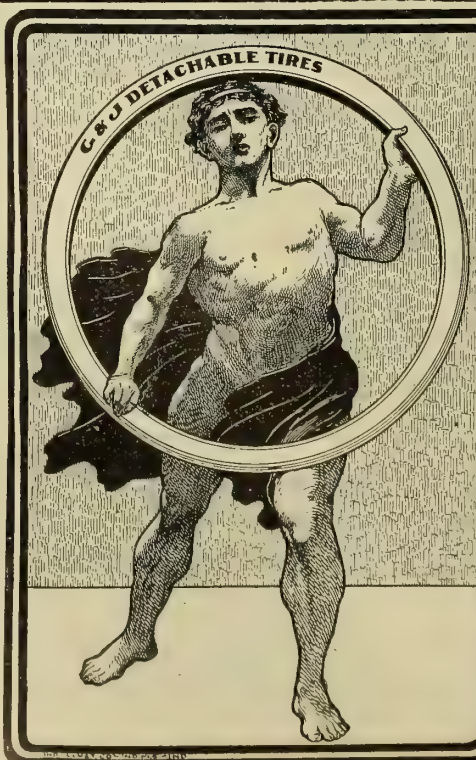
THE CROSBY COMPANY,
BUFFALO, N. Y.,
Sheet Metal Stamping.

THE ARMSTRONG "A" CRANK HANGER



is conceded by competent judges to be the most perfect in point of design, mechanical construction, finish and materials used, that it is possible to produce. Made in one grade only, the highest. Handsome in appearance; simple in construction; easy and positive adjustment. We make the most complete line of bicycle frame fittings and crank hangers on the market. Our 1902 prices are low. Write for them.

ARMSTRONG BROS. TOOL CO., Chicago.



G & J TIRES
EMBODY
ALL ESSENTIALS
OF
PERFECTION

*Strength,
Durability,
Speed,
Ease of Repair.*

1902 CATALOGUES NOW READY

G & J TIRE CO.
INDIANAPOLIS - IND.

MAKERS OF
G & J DETACHABLE TIRES
FOR ALL CLASSES OF VEHICLES

The Week's Patents.

696,448. Gear for Bicycles. Irving W. Keithley, Worcester, Mass. Filed April 8, 1898. Serial No. 676,893. (No model.)

Claim.—1. In a bicycle, the combination of a crank shaft, a rear wheel, a train of gearing for transmitting power from the crank shaft to the rear wheel, comprising a crank shaft gear, a rear wheel gear, and an intermediate open centred rim gear having ball receiving flanges upon opposite sides of its working face, a supporting ring forming an external bearing or box within which the rim gear is mounted, two sets of bearing balls for journalling the rim gear in the supporting ring, and a retaining ring secured in place so that it can be adjusted to take up wear on both sets of bearing balls, substantially as described.

696,585. Vehicle Tire. William H. Ostrander, Poughkeepsie, N. Y., assignor of one-third to William Tyler Smith, Poughkeepsie, N. Y. Filed Oct. 7, 1901. Serial No. 77,897. (No model.)

Claim.—1. A vehicle tire comprising an elastic tube having a plurality of pockets, and an inelastic body in each pocket, each of said bodies having a diameter sufficiently less than that of its pocket to permit of partial collapse of the pocket and subsequent compression of the body between the opposite walls thereof.

696,670. Sparking Plug. Henry C. Folger, Harry Moriarty and Edward B. Jacobson, West Somerville, Mass.; said Jacobson assignor to said Folger and Moriarty. Filed Dec. 18, 1900. Serial No. 40,298. (No model.)

Claim.—1. In a device of the kind described, containing two spark electrodes and conductors leading thereto approximately parallel, an insulation between said conductors consisting of two contiguous parts composed of refractory insulating material, one part being mounted in close contact around one of said conductors, and the other surrounding the former, one of said parts extending integrally lengthwise of the device and the other of said parts being made up of a series of layers extending radially of said lengthwise part, and means holding said insulation under longitudinal compression.

696,875. Bicycle Tire. Robert L. Lewis, San Francisco, Cal. Filed Oct. 19, 1901. Serial No. 79,286. (No model.)

Claim.—1. In a bicycle tire, the combination with the rim of a wheel, of a plurality of springs secured thereto and arranged in the form of segments, spurs on said springs adapted to engage the rim, and a resilient tread engaging the springs and provided on its under side with a suspending portion which projects between the free ends of the springs.

?
Can you
think of anything
that
affords ground for
more convincing argument
or that
appeals with greater force
to the prospective purchaser
than the

**Cushion
Frame**

?

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

Our
Seat Posts

are unrivalled in
**MATERIAL,
WORKMANSHIP
and FINISH.**

The Standard Welding Co.,
Cleveland, Ohio.

**WYOMA
Coaster Brakes.**

UNIVERSAL AND DETACHABLE.

We control following patents:

June 12, Aug. 14, Dec. 25, 1900,

Feb. 19, March 26, April 1, 1901,

covering all features of construction of these
brakes. We also control trade-mark "E. Z."
and will manufacture all brakes so stamped.

See issue of January 1st for description
and watch our Ad.

Reading Automobile & Gear Co.,

Tenth and Exeter Sts., READING, PA.

"PERFECT"

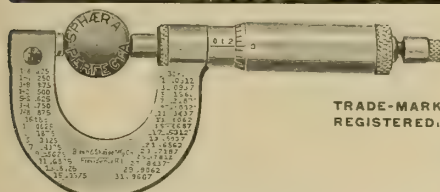


OILER.

For High Grade Bicycles. The best and neatest Oiler in the
market. DOES NOT LEAK. The "PERFECT" is the
only Oiler that regulates the supply of oil to a drop. It is ab-
solutely unequaled. Price, 25 cents each.

We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK



**STEEL
BALLS**

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us
at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

THERE ARE NO LAMPS
EQUAL TO THE

**BRILLIANT or HALO
Gasoline Gas Lamps**

for HOME, CHURCH, STORE,
STREET LIGHTING, Etc.

Thousands of them in daily use justify the claim. Every
lamp guaranteed. Average cost of running
too candle power

ABOUT 15 CENTS A MONTH.

ONE AGENT WANTED IN EVERY TOWN.

BRILLIANT GAS LAMP CO., 42 State St., Chicago



HAVE YOUR BICYCLE EQUIPED WITH A

NEW DEPARTURE COASTER BRAKE

SOLD EVERYWHERE BY EVERY BODY

MANUFACTURED BY
THE NEW DEPARTURE BELL CO.
BRISTOL, CONN. U.S.A.
SELLING AGENTS
JOHN H. GRAHAM & CO.
NEW YORK CITY.

SOLAR LAMPS

ALWAYS SATISFY.

Badger Brass Mfg. Co., Kenosha Wis.

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited
California in 3 days

The Colorado Special
One night to Denver

The Chicago-Portland Special
Oregon and Washington in 3 days

The North-Western Limited
Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail
Fast train to head of lakes

The Peninsula Express
Fast time to Marquette
and Copper Country

NO change of cars. The best of everything. Call on any agent for tickets or address

461 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburg
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St. East, Toronto Ont

All American wheelmen who desire to keep themselves posted upon matters concerning the cycle in Europe, its trade, mechanics, and sport, should subscribe to

THE CYCLIST

AND BICYCLING AND TRICYCLING TRADES REVIEW.

The only recognised authority of English trade and manufacture. Sent post free to any part of America for one year, \$3.25. American manufacturers having novelties in machines or sundries to introduce should advertise in

THE CYCLIST.

Terms on application to

LIPPE SONS & STURMEY, Ltd.,
19 Hertford Street, Coventry, England.

Members of the American Trade visiting England are invited to call at THE CYCLIST Office at Coventry or at 3 St. Bride Street, Ludgate Circus London, E. C.



Through Train and Car Service in effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from St. Thomas to Chicago. Both trains run daily and are made up of the most modern and luxurious vestibuled Sleeping Cars.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage Them"

is the very book you need.

Every page teaches a lesson. Every illustration "speaks a piece."

And there are 126 pages and 41 pictures, too
Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday
at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis



Via Rockford, Freeport, Dubuque, Independence, Waterloo, Webster City, Fort Dodge, Rockwell City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars, free reclining chair cars, dining cars. Tickets of agents of I. C. R. R. and connecting lines. A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R.R.

LOWEST RATES FAST TRAIN SERVICE

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all Through trains.

For tickets and information apply at any principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, April 17, 1902.

No. 3.

WITH \$120,000,000 CAPITAL

Jobbing Merger Presents a Formidable Front but Many Notables are Missing.

Believing that the movement has matured sufficiently to assure success, the promoters of the \$120,000,000 hardware jobbing trust, or merger, as such amalgamations are now termed, have made public the chief details of the project and definitely disclosed the houses involved. The names of fifty-two are given, more than half of them being identified as well with the cycle jobbing trade. The list in full follows:

Baldwin, Robbins & Co., Bigelow & Dowse Co., Brown & Wales, Fitz, Dana & Co., Frye, Phipps & Co., Arthur C. Harvey Co., Waite, Ranlet & Co. and Holder & Herrick, Boston; C. S. Mersick & Co., New Haven, Conn.; Emery-Waterhouse Co., Portland, Me.; Burhans & Black Co., Syracuse; Matthews & Boucher, Rochester; Albany Hardware & Iron Co., Albany, N. Y.; Weed & Co., Buffalo; Barker, Rose & Clinton Co., Elmira; Supplee Hardware Co., Philadelphia; Bingley Hardware Co., Pittsburg; William Bingham Co., McIntosh-Huntington Co., George Worthington Co., Lockwood-Taylor Hardware Co. and J. M. & L. A. Osborn Co., Cleveland; Standart Bros. and Freeman, Delamater & Co., Detroit; Morley Bros., Saginaw, Mich.; Van Camp Hardware & Iron Co., Indianapolis; C. W. Hackett Hardware Co., St. Paul; Janney, Semple, Hill & Co., Minneapolis; Marshall-Wells Hardware Co., Duluth; Simmons Hardware Co., St. Louis; Richards & Conover Hardware Co., Kansas City; George Tritch Hardware Co., Denver; A. M. Holter Hardware Co., Helena, Mont.; Dunham, Carrigan & Hayden Co. and Pacific Hardware & Steel Co., San Francisco; Harper & Reynolds Co. and Union Hardware & Metal Co., Los Angeles; Seattle Hardware Co., Seattle; Gray & Dudley Hardware Co., H. G. Lipscomb & Co., A. M. Tenison & Son and Keith, Simmons & Co., Nashville; Stauffer, Eshelman & Co., New Orleans; Moore & Handley Hardware Co., May & Thomas Hardware Co., Milner & Kettig Co. and Mayberry Hardware Co., Birmingham, Ala.;

(Continued on page 82.)

Mossberg Issues Warning.

While "imitation may be the sincerest flattery," the Frank Mossberg Co., of Attleboro, Mass., are among those who naturally do not relish flattery of the sort when it threatens their reputation and business.

In the present instance the "compliment" takes the form of an imitation of their Mossberg No. 10 bell, one of the sellers of the season, the imitation being marketed under that designation and packed and labelled in boxes that carry out the deception.

The effort to trade on the Mossberg reputation is so apparent that the Frank Mossberg Co. have felt called on to warn the trade and to assert their right to the designation "Mossberg No. 10." They purpose instituting proceedings against the infringers, and it is well, therefore, to bear in mind that in such cases the law holds both maker and seller equally guilty.

Straus Surprises the Sheriff.

When a deputy sheriff last week endeavored to serve an execution against the Straus Rubber and Tire Co., of 351 and 353 East Sixty-first street, this city, for \$1,394 in favor of Herman Reimers he found himself balked. He was informed that the company had given a bill of sale of the assets a week previous to Edward Loewenthal for \$4,000. The company was incorporated in March, 1901, with a capital stock of \$25,000.

Schaaf and Merseles Move up.

A. E. Schaaf, formerly manager of the Rambler branch in Boston, has been elected president of the International Motor Car Co., of Toledo, of which he has been manager for a year or more. At the same time Theodore F. Merseles, formerly third vice-president of the American Bicycle Co., was made vice-president of the International Co.; he will divide his time between New York and Toledo.

Laishley Asks for \$7,000.

Among the other troubles that have come to the much troubled Canada Cycle and Motor Co. is a "left over" from the Goidl Bicycle Co. Argument was last week commenced in the suit of L. C. Laishley in an action to recover approximately \$7,000 for alleged breach of contract and commissions. Mr. Laishley was a prominent traveller for the latter company.

KEENE IN CONTROL

Dictates Choice of Rubber Goods's Directors Shake-up Likely to ensue.

The expected fight for the control of the Rubber Goods Mfg. Co. failed to occur. The Keene interests, represented by Talbot J. Taylor, went to the meeting at Jersey City on Thursday last, with the balance of power in their hands, and, of course, had things all their own way. The result is a turnover of the management of affairs, the "outs" now being in and the "ins" out.

Only one ticket for directors was presented, as follows: A. L. Kelley, A. S. Swan, W. A. Towner, Alvah Trowbridge, Henry Steers, H. S. Burrill, W. R. K. Taylor, H. R. Wilkening, A. Y. Whitman, J. Archibald Murray, J. B. Morris, H. W. Turnbull, Eugene Underhill, Edward Lauterbach and John H. Hammond. The first five directors represent the old interests of the company. The other ten represent the Keene interest.

One of the principal features in the amended certificate of incorporation is a reduction of the capital stock from 500,000 shares to 300,000 shares, par \$100. Of the reduced capitalization 120,000 shares are to be 7 per cent cumulative preferred stock and 180,000 shares common stock, par \$100 in each instance. It is further provided that no dividend can be declared on the common stock until all accumulated averages be paid on the preferred stock, with interest at the rate of 4 per cent per annum.

The following figures of operations for the years ended December 31, 1901 and 1900, show a small increase on gross and net income for 1901 and a larger gain in surplus, arising chiefly out of a reduction in the amount of dividends paid:

	1901.	1900.	Increase
Inc. from div's			
allied co's....	\$1,362,824	\$1,301,610	\$61,214
Def. int. acc't..	22,557	**25,562	48,119
Total income.	\$1,340,267	\$1,327,172	\$13,095
Expenses paid.	63,404	101,878	*38,474
Balance	\$1,276,863	\$1,225,294	\$51,569
Dividends	902,432	1,013,413	*110,981
Surplus	\$374,431	\$211,881	\$162,550
** Decrease. * Surplus.			

(Continued on page 82.)

FOR PACING PURPOSES

N. C. A. Enacts new Rules to Settle Squabbles and Circumvent "Foxy" Pacers.

In the endeavor to finally settle the many wrangles which have grown out of the many and varied motor tandems and motor bicycles used for pacing purposes, the Board of Control of the National Cycling Association has adopted and promulgated the following rules:

RESTRICTIONS FOR MACHINES.

First—No part of a motor tandem, except the handle bars and pedals, shall exceed eight inches at its widest part, including appliances of regulation size, such as motor, spark coil, muffler, carburetter, battery box, etc., and said appliances shall be placed in a parallel line in front of one another. Furthermore, the referee shall have the right to order any appliance not in actual use taken off the machine, or if in his judgment such appliance shall serve the purpose of a wind shield.

Second—The gasoline or naphtha tank attached to a pacing machine shall be used solely for the storage of a fuel supply, and shall be so constructed as to present not more than seventy square inches of surface for wind resistance. Each machine is limited to the use of one tank, which shall at no part of its construction exceed eight inches in width.

Third—Battery boxes for use on pacing machines must not exceed eight inches in height and three inches in width.

Fourth—The use of water jackets on pacing machines is not permissible, and contestants must not use any part or accessory on machines that may prove dangerous.

Fifth—In preparing pacing machines for use operators are cautioned against allowing the back edge of the saddle to project beyond the outer edge of the tire on the rear wheel, and the gasoline tank and all other appliances must be placed in front of the operator and not further back than the centre of the rear hub. Under no circumstances will a departure from this rule be tolerated.

Sixth—Operators and steersmen will be required to pedal at all times when pacing a race.

PACEMAKERS.

First—No straps or supports of any kind shall be used by a pacemaker, and the referee shall have the discretion to order anything off a pacemaker that in his judgment gives an unfair advantage.

Second—No pacemaker shall be permitted to dress in other than the customary manner, and shall be limited to the accepted regulation costume of sleeveless shirt and knee tights, to which may be added one sweater and one pair of long tights, same to be of size fitting the wearer.

SINGLE MOTOR BICYCLE.

First—The above rules also govern single motor bicycle pacing, with the exception that no muffler shall be used; pedalling shall be optional with the operator, and the feet of the operator shall not rest lower than within four inches of the track.

New York's Bicycle Squad Broken Up.

After five years of service, New York's once famous bicycle police squad has been abolished as a distinct organization, with officers and a station house of its own. The ninety men comprising it will still do duty on bicycles, but they have been scattered to the four winds and henceforth will be under the direction of the captains of the precincts in which their beats lie.

The time honored "for the good of the service" is the reason assigned by the Police Commissioner for his action, which does not come as an entire surprise. The bicycle squad has had what is vulgarly termed a "soft snap," and for some time the men have done more loafing, flirting and shirking than they have done duty. They have themselves to thank for the breaking up of the squad.

The Morrow and the Mails.

In Elmira there is one class of working people which is not exactly tickled over the success of the Morrow coaster-brake—not that they have any grievance against the de-



vice or its makers, but because of the unwonted labor it has imposed on them. The clerks in the Elmira postoffice are the men in question. The "Morrow campaign" has been a particularly aggressive one since the riding season opened, and has entailed the circulation of enormous quantities of both printed and written matter. The accompanying illustration, which shows the daily wagonload ready to leave the Eclipse factory, will convey an idea of the volume. According to an Elmira paper, the Eclipse Mfg. Co.'s purchase of postage stamps has averaged \$2,000 per week for several weeks.

How Times have Changed.

When J. E. Bromley, president of the American Cycle Mfg. Co., was in New York last week he cited A. G. Spalding & Bros.' Chicago branch as an apt example of the change that has come over the trade.

"Last fall the Spaldings wanted to abandon the bicycle business and discontinue their bicycle department," he said, "and I had a hard time inducing them to hold on. Now they are not able to get bicycles fast enough."

"The Motor: What It Is and How It Works." See "Motocycles and How to Man- age Them." \$1. The Goodman Co., Box 649, New York. ***

FIGURES FROM CANADA

Statements That the Much Troubled Trust Have Submitted to the Public.

The Canada Cycle and Motor Co., whose affairs are now under scrutiny in the courts, was organized in 1899, and in September of that year \$2,000,000 of 7 per cent preference stock was offered to the public at par, dividends being payable in January and July. The capital authorized was \$6,000,000, being 30,000 shares 7 per cent cumulative preference stock (\$3,000,000), and 30,000 shares common stock (\$3,000,000). Of the preference stock \$500,000 was reserved in the treasury. The executive consisted of President W. H. E. Massey, First Vice-President Hon. George A. Cox, Second Vice-President J. W. Flavelle and General Manager Joseph N. Shenston; directors, Hon. Lyman M. Jones, A. E. Ames and W. Y. Soper.

The annual report of 1900 showed a business of \$1,527,313.75 done by the company. The profit on the year's business was placed at \$195,048.09, from which, deducting dividends of \$46,500 and \$87,500 and writing off for expenses and losses not chargeable to trading account \$7,626.66, the balance of \$53,421.43 was left. Of the balance \$25,000 was appropriated to reserve fund and \$28,421.43 carried forward in profit and loss account.

The annual report for 1901 showed that the regular dividends, amounting to \$175,000, had been paid on the preferred stock, wiping out the revenue of \$25,000, the profit and loss account carried forward from 1900, \$21,378.34, and the profits of the year, \$2,035.28, leaving a deficit of \$126,086.23. The directors were, of course, unable to continue dividends, and the report was passed in with a clause advising that the managing committee of the Toronto Stock Exchange be requested to withdraw the preference stock of the company from the securities listed on the exchange until such time as the company shall resume payment of dividends.

The last annual statement shows liabilities of \$6,750,505.70, made up of accounts and bills payable (\$1,250,505.70), capital stock preference shares (\$2,500,000), and common shares (\$3,000,000).

The assets were placed at \$6,524,419.39, made up of real estate, machinery, patents, trademarks, goodwill, etc., \$4,958,513.74; Hamilton factory, \$26,823.11; accounts and bills receivable, \$629,062.35; stock on hand, \$967,681.31, and cash on hand in bank, \$42,338.81.

Takes on Standard Tubing.

Miller, Thornburgh & Co., of this city, have closed with the Standard Welding Co., Cleveland, for a big slice of Eastern territory. The New York firm will handle the Standard Co.'s electrically welded tubing in New England, in New York east of Syracuse, in New Jersey, Pennsylvania, Delaware, Maryland and Virginia.

AFTER THE FRAUDS

Wheaton & Smith Creditors Meet and Decide to Continue the Prosecution.

In response to a call issued by the Frank Mossberg Co., Veeder Mfg. Co., Badger Brass Mfg. Co. and 20th Century Mfg. Co., among others, the creditors of that rascally firm, Wheaton & Smith, Chicago, who, after ordering goods from all directions on thirty days' time, "vanished" before the bills matured, met in this city on Wednesday of last week.

Gann & Peaks, the Chicago attorneys who were retained at the time the fraud was discovered, were represented and presented their report. This showed that as far as it had been possible to ascertain the firm's liabilities amounted to some \$35,000. Of the great volume of goods that had been disposed of by underground methods, some \$20,000 had been traced and recovered. The plotter and chief scoundrel of the nest had also been discovered and apprehended. He proves to be one George E. Shippey, who but six months before had been released from the penitentiary, whither he had been sent for a somewhat similar fraud. Shippey was the man to whom the goods were made over after they reached Chicago. He had them stored in various out of the way places. In addition to Shippey, E. L. Wheaton, the senior partner of the firm, has been located and is under surveillance.

After listening to the report the meeting decided to assess the creditors 10 per cent and to continue the prosecution of the culprits.

Keck Adds Confirmation.

L. J. Keck, of the Badger Brass Mfg. Co., is in New York on one of his periodical visits. Since he was here last he has made a tour of a number of the Central Western States, and adds further confirmation to the many reports of a healthy state of trade. The Solar lamps are obtaining their full share of the patronage, and with the line of plumbers' supplies which the Badger people recently added to their manufactures the factory at Kenosha is kept humming. On the new Solar oil lamp the factory is behind orders.

"But they are all coming East," he said. "You couldn't give away an oil lamp in the West; they laugh at you when you talk of them, and can't understand how or why the trade in the East can sell anything but gas lamps."

New York, Philadelphia and Baltimore, Keck says, are the chief centres of the demand for the oil burners.

Starley Left Over a Quarter Million.

J. K. Starley, the Englishman who made the safety bicycle practical, left a snug fortune after him. When offered for probate, some two weeks since, his will disclosed an estate valued at \$47,167.

A. B. C. Stocks Continue to Rise.

American Bicycle Co. securities continue to maintain strength, the dealings for the week ending April 12 being largely in excess of the previous week. On sales of 30,505 shares of common, it advanced from 5 to 8; dealings in 15,264 preferred caused it to rise from 21¾ to 25; 228 bonds, par value \$1,000, were sold, and advanced from 63 to 66.

On Monday of the current week 10,100 common were dealt in at from 7¾ to 8, and 6,200 preferred at 25½ to 26½; 250 bonds were sold at prices ranging from 66½ to 67½.

Tuesday's trading in common amount to 2,900, with a net change of ¼ point loss. Preferred fell off ½ point, with 1,600 shares in evidence. The bond sales amounted to a total of 40 at 69.

It is currently reported that the company has increased its financial strength by the sale of its stock in the Rubber Goods Mfg. Co., also by the prompt payment for goods which have been shipped during the past winter with April 1st datings.

Ten days Better Than Thirty.

"Our March business doubled that of last year, and in the first ten days of the current month we made more sales than were made during the entire thirty days of last April," is the report of Manager Henry of the Stearns Bicycle Agency's New York branch. On one model of the Wolff-American he is unable to get deliveries fast enough, despite the fact that the factory in Syracuse is working overtime in the effort to keep pace with the demand.

Rumor Again Involves Col. Pope.

The annual report that Colonel Albert A. Pope is endeavoring to repurchase the Columbia factory in Hartford is again in circulation and has been extensively printed. The fact that Colonel Pope, like all others who sold out to the American Bicycle Co., contracted not to again engage in the manufacture of bicycles for a term of years appears to escape the notice of many who ought to know it and who are yet disposed to credit the reports.

The Rush for Racycles.

"Am gratified to hear that — is so enthused over the Racycle," says W. K. Thomas, of the Miami Cycle and Mfg. Co., in a note to a personal friend; "but it is not wholly surprising; it is the same all over the country. I am firm in the belief that we are selling three wheels to every other manufacturer's one. Our orders last week were over 1,500, and they are keeping up proportionately this week."

To Prevent Belt Stretching.

As an experiment worth trying, an ordinary bicycle chain covered with rawhide is recommended as a substitute for the ordinary belt used on belt driven motor bicycles. A motocyclist who has used a belt comprised that despite several months' usage it gives no sign of stretch or other trouble.

KEHEW SELLS OUT

Says it is a Bona Fide Sale This Time—Speaks of Other Matters Also.

According to present indications the finish of the much discussed United Supply Co., of Boston, Mass., is in sight. At the time of its supposed transfer to the Equitable Distributing Co. very many people then thought they saw its finish, but subsequent events proved otherwise.

On Tuesday of this week, however, George F. Kehew, president of the Supply Co., was in New-York, and while here gave out that both himself and John C. Patterson, the secretary of the company, had finally disposed of all interest in the concern, which would now go into liquidation and wind up its affairs. Kehew states that he and Patterson sold out to Anna F. Pratt, wife of D. S. Pratt, and the third member of the company.

The only cloud on the winding-up sky is a suit of John R. Keim, of Buffalo, against the United Supply Co. involving a disputed account. Kehew has been summoned as a witness. While admitting the existence of letters signed by Gus Boyer, Keim's one-time sales manager, and of which Keim had no knowledge, and which have given rise to some ugly stories, Kehew treats the matter lightly.

The Keim proceedings, he says, are likely, however, to finally uncover the real facts of the supposed sale of the United Supply Co. to the Equitable Distributing Co., which sale, he added, was a conditional sale, with more than the usual number of conditions imposed.

Diamonds in Buffalo.

An engraved announcement is being sent out by the Diamond Rubber Co., of Akron, O., regarding the removal of their Buffalo branch to 41 Court street, where a material enlargement of facilities has been made.

In connection with the store there is one of the most complete repair stations in the country for the purpose of repairing all classes of tires. All employed in executing this work are skilled workmen, being graduates from the Akron factory. In addition air pressure is always kept on tap for the inflation of tires, at all times, gratis.

The announcement contains an invitation to the traveller to use the store as headquarters. Use of the conveniences for receiving and answering mail, stationery, telephone, stenographic facilities, etc., is offered.

Gridley Swears off \$380'000.

Francis W. Gridley, who formerly owned the Olive bicycle factory, has finally taken action to end his troubles that grew out of the management of this and other business ventures. Last Saturday he filed a petition in bankruptcy, showing an indebtedness of \$380,059. His assets are practically nothing.

FEBRUARY 28, 1902.

NATIONAL CYCLE MFG. CO.,
BAY CITY, MICH.

GENTLEMEN:—Last May I bought from your local agents, Messrs. Chadwick & Morris, one of your chainless models with cushion frame and coaster brake attached.

After nearly a year's use it gives me great pleasure to tell you that the bicycle has given me complete satisfaction, and I believe that for ease in running and durability it cannot be excelled. I have ridden nearly all winter and have given the bicycle more severe usage this winter than months of use in the summer time. For about one month this winter I think my wheel was about the only one seen on the streets of Lockport, and during that time I have ridden the wheel over places that would put an ordinary wheel out of business. When you consider that I weigh nearly 200 pounds and that I rode over frozen roads and always at a fair rate of speed, you or anyone will agree that it was a good test of strength.

I have ridden bicycles for upwards of seventeen years and have owned or ridden nearly all of the leading makes, and can add nothing further in commendation of your wheel than to say that after the year's experience I have mentioned I am thoroughly satisfied with the National Bicycle.

Yours truly,

(Signed) AMOS H. GARDNER.

SATISFIED RIDERS ARE OUR BEST ADVERTISERS.



“Just as Good.”

MR. DEALER: Do not give your customer a tire of that kind—
Give him the best and send him away satisfied.

FISK TIRES



ALWAYS SATISFY, BECAUSE THEY ARE THE BEST.

AND REMEMBER

“Where you sell the FISK, you run no risk.”

FISK RUBBER COMPANY, Chicopee Falls, Mass.

BRANCHES:

BOSTON,

604 Atlantic Ave.

SPRINGFIELD,

40 Dwight St.

NEW YORK,

83 Chambers St.

PHILADELPHIA,

916 Arch St.

SYRACUSE,

423 So. Clinton St.

BUFFALO

28 W. Genesee St.

DETROIT,

252 Jefferson Ave.

CHICAGO,

54 State St.

SAN FRANCISCO,

114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday
By
THE GOODMAN COMPANY,
123-125 Tribune Building.
(154 Nassau Street)
NEW YORK, N. Y.
TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] **\$2.00**
Single Copies [Postage Paid] . . . **10 Cents**
Foreign Subscription **\$3.00**

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, APRIL 17, 1902.

Selling Motor Bicycles.

It is a matter of common knowledge that one of the most serious obstacles with which manufacturers of motor bicycles have to contend is the ignorance and the apparent unwillingness or disinclination of the average dealer or average salesman to properly acquaint himself with the "insides" and the workings of the "insides" of the machine in the sale of which he is vitally interested.

Accepting the great city of New-York as a fair example, the Bicycling World set afoot investigation designed to uncover the real extent of this lack of information and selling ability. The result is spread on another page. Taken as a whole it is little short of amazing, and certainly the state of affairs reflects no great credit on the metropolitan trade.

Apart from the main object of the inquiry—to discover if technical knowledge existed—the investigation developed an entire lack of real effort to attract attention to motor bicycles or to really effect a sale when attention spontaneously manifested itself.

Of eight stores visited, in not one was a motor bicycle, or any reference to it, displayed in the windows; in but one was a catalogue or other printed matter proffered or in sight; in but one was any information obtained without questioning; in two no attention whatsoever was paid the callers, they were permitted to wander about the stores and to gaze at the machines without being approached by a salesman, and in not one were the merits of the machine, its ability to carry riders uphill and against head winds without effort, even remotely touched on.

In short, there was no attempt made to interest the apparently prospective purchasers; no effort made to imbue them with enthusiasm; no effort made to sell them a bicycle; none to obtain their names, and there were no invitations to "call again." Had they been intent only on the purchase of a paper of pins or a ten cent tack hammer rather than on a bicycle netting a handsome and unusual profit, and for which customers do not call every hour of the day, their treatment could scarce have been more perfunctory or better calculated to achieve no results.

The best result of the investigation was, perhaps, the candid admission of the manager who frankly owned that he knew nothing about the construction of motor bicycles and found it unnecessary to know much about them in order to effect a sale, since the general run of purchasers were no wiser than himself.

To this establishment it is fair to say that motor bicycles are new, and the manager's argument, while specious, if not dangerous, is plausible, and fits the moment.

But it is not so much the selling of a machine as in having it "stay sold" that the importance of knowledge rests. It is the dealer who knows how to "take care" of a customer whose fame will spread and whose profits will remain permanent profits and not merely the profits of a day.

It is this "taking care of the customer" that is the real problem of the motorcycle business. It is so new and comparatively so intricate that more "caretaking" devolves on the dealer than anything that has confronted the cycle trade since the first stage of the pneumatic tire. If dealers do not appreciate the fact it is time they awakened to it and prepared and schooled themselves for it. It is their business to know, and what they do not know they should learn, and they should not remain content until

they do learn. Superficial knowledge will not serve.

Apart from the too general ignorance which the Bicycling World's inquiry developed, far more surprising was the even more general failure to properly display the motor bicycle, to attract attention to it, to decant on its benefits and to interest and enthruse the inquiring visitor and thus implant the seed that may sprout on the morrow.

The motor bicycle is the biggest money maker the retail cycle trade has had offered it in many long years. Intelligently displayed and intelligently treated it will bring grand returns. It deserves better treatment than it has received and is receiving from those whose interests and purses it will serve most.

If you are not awake to the opportunities it offers, nudge yourself until your eyes open, and then do not close them until you know motor bicycles from A to Izzard.

Again the Gear.

Up a long grade—it could scarcely be dignified with the name of hill—we watched a crowd of wheelmen the other day. A number of them walked, others rode slowly and with manifest difficulty; only a few took it with ease and with pleasure in the added effort entailed.

Two riders in particular we regarded closely. Neither of them appeared to be what could be called expert riders. There was none of the dash or beautiful action that marks out the majority of such wheelmen. They seemed to belong to the class of fair riders, nothing more.

One of them appeared to be working his passage, and at a pretty high price. He bent over to his work, swayed from side to side as he pedalled, and had to push very hard to get the pedal down each time it came up. He continued doggedly at it, however, and made pretty fair progress. We noticed that his legs were moving very slowly, even for the speed he was going. A little mental calculation made it plain that his gear was high—probably not much short of ninety.

His companion was probably not quite as good a rider. Nevertheless, he seemed to go up the hill a great deal easier, although not a whit faster.

Watching the feet of the two men, it was plain that the second one had the lower gear. The pedal came up more quickly and was pushed down with less effort; it made more

revolutions than the other, yet the speed of the machine was no greater.

About all that can be said on the subject of high gears has already passed into history. Excessive gears do much harm and no good. This has been said until it seems wearisome to repeat it.

Here was a case in point. The rider who labored so greatly on an incline of that magnitude plainly had no business with a high gear. He was handicapped by it. He could not ride fast, and the only good he could get out of a high gear—that is, when going down hill or on the level—was denied him. Then why use such a gear?

If the rider had been asked he would in all probability have been unable to tell, unless he said that it was because the other fellows did, or that the gear was on the machine when he bought it.

Given another gear, one of not much if any over seventy, he would have taken the slight hill with infinitely less effort. If not a genuine pleasure, it would have at least been unattended with the real hardship that was so evident to the onlooker.

Tact in the Traveler.

Some salesman seem to be of the belief that sheer persistency is all that is needed to win out in the struggle for business. Perhaps it is, but the salesman of discretion who knows when to urge and when to let up is the one who is bound to win out in the end.

It is easy enough to be dogmatic and claim that nothing can be offered in extenuation when one man is rude to another. There are times, places and causes. Some salesmen are invariably welcomed, no matter what may be disturbing otherwise; they carry an air of geniality that would thaw out the arctic pole. They have their place and know how to fill it to the satisfaction of everybody.

Unfortunately there are others. The wonder is how they find employment. They make even the good tempered antagonistic, and their gilt edged impertinence makes the busy man creep. They deliberately plant themselves by the side of the desk, and any and all attempts at showing they are nuisances are just lost effort.

So much depends on taste and tact. The clever salesmen know how to leave a good impression for their next call. On the other hand, the merely persistent and self-satisfied man is avoided if possible for all further time, simply because the busy man knows his time will be wasted and that bombast

and twaddle will be dinned into his ears.

One has a perfect right to do all he can to sell his goods, even at times going to some lengths in strong and forcible argument; but to become a bore with unmitigated cheek is another thing. Any good that may have been accomplished at first is soon wiped out.

On the other hand, there are buyers who treat salesmen as necessary evils and give them but the scantest of courtesy. There need be no supporting reason for this. If the caller be of the unwanted class he can be dismissed for good and sufficient reasons. If he is of the class that has shown previous discretion he is worthy of every courtesy. He is as valuable to the buyer as the buyer's order is to him. There should be give and take on both sides.

Many things are liable to occur that will keep the man at his place of business from granting an immediate audience, and the salesman of good sense realizes this and awaits his opportunity. On the other hand, there are often poor train connections to be made, and a point can be stretched to give a hearing to the traveller who has previously proved his ability to leave at the right time.

Shattering of a Cycling Idol.

The Sultan of Morocco finally has been "run to earth"; and more's the pity. His uncovering shatters a beautiful dream.

It was better far the picture the royal if mysterious potentate as the liars had pictured him, that is, as an up-to-date young man, who in the splendor of his bicycles put the glories of Solomon to flight. It was better to paint mind pictures of his chocolate complexioned highness astride the solid gold, diamond studded bicycle on which the liars had mounted him nearly ten years ago, or even on the motor bicycle which foreign exaggerators so recently placed at his disposal—almost anything would be better than that the "Cycling Sultan" had faced the tell-tale camera.

It is one of the unfeeling and unknowing illustrated weeklies that prints the picture of Mulai Abdul Aziz—that's his name. And such a Mulai as he is! Not the dashing spick and span dandy that fancy painted, but a short, pudgy, moon-faced chap, clad in a white garment that resembles a night gown with meal sacks for sleeves and with a head piece attached, suggestive of a sister of Charity.

The picture shows Mr. Aziz holding what is described as "his favorite steed"—a bi-

cycle, of course. But such a bicycle! It is suggestive of mail-order houses and Manhattan storage job lots. It is emblazoned not even with ten-cent rhinestone. There is not a bit of gilt or bespangling anywhere about it. It is simply one of the common everyday crocks, that even a self-respecting thief—if there is such a thing—would be ashamed to steal. Outside joints, wide tread, heavy rubber pedals, archaic chain, a pancake saddle with a jiggling toolbag, no brake, a sawed-off mudguard and no nameplate—and this is the "royal mount" of which the liars of two continents have written for years. Ugh!

As if the baglike nightgown garment reaching to the royal feet, and the jibboom like sleeves covering the royal hands was not evidence enough, the editor of the illustrated weekly scents a fake:

"That the Sultan has taken up the bicycle the illustration shows," he writes. This is rather surprising since the Sultan is supposed to be a mysterious figure hidden away in the recesses of his palaces at Fez or Marakesh, cities whose only communication with the coast is by tracks that are often impassable in winter, and which are at any period only practicable for caravans of camels, mules and horses.

"Even in his own capital the Sultan is seen but little in public, and when on occasions of state he emerges from seclusion with all the barbaric pomp of his position his subjects seldom seize the opportunity to obtain a glimpse of his majesty, because of the peculiar veneration in which he is held by his people."

But these observations are superfluous. The photograph is sufficient. The liars are undone.

Oh, Mulai! Oh, Aziz! Thy glory has departed and another cycling idol is shattered beyond repair!

In the interests of truth and history it is about time to down for all time that persistent canard which is again going the rounds of the press that Will R. Pitman won the first bicycle race ever run in this country. Pitman did not win the first race, nor the second, nor the third one, and none knows it better than himself. But he can now win renewed honor for the Pitman clan by acknowledging in public the fact that he has acknowledged in private, and by repudiating the unearned glory which has long and so often, and without protest, been credited to him.



MODEL 76 PRICE \$40.00

Orient Bicycles

KNOWN THE WIDE WORLD OVER.

WRITE FOR HANDSOME NEW CATALOGUE



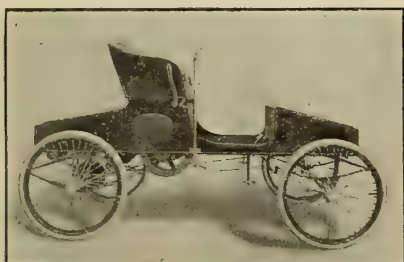
APPLY FOR AGENCY

WALTHAM MFG. COMPANY, WALTHAM, MASS.

Our Agency Proposition is Unequaled!

THE CHIEF CONSIDERATION ON THE PART OF THE

"BUFFALO, SR." AUTOMOBILE.



Model 7. Price, \$800.

HAS 6 H. P. MEDIUM SPEED MOTOR.

For **PROFESSIONAL MEN,**
BUSINESS MEN,
and **FAMILIES.**

DEALER

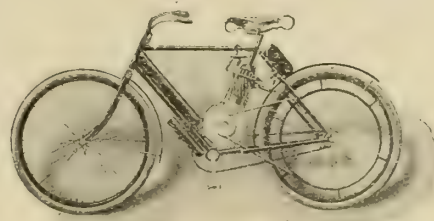
is the question of

PROFITS.

We Offer:

Up-to-Date **DESIGN.**
First Quality **MATERIAL.**
Best **WORKMANSHIP.**
Superior **EQUIPMENT.**
Unsurpassed **GUARANTY.**
Exclusive **TERRITORY.**
Absolute **PROTECTION.**
Prompt **DELIVERY.**

"AUTO-BI" MOTOR BICYCLE.



Model 4. Price, \$175.

Has 2½ I. H. P. Motor; is belt-driven,
which is the

Favored Transmission
FOR MOTOR CYCLES.

THOMAS WORLD RECORD MOTORS.

Send for Catalogs and Testimonials.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, 1200 Niagara Street, Buffalo, N. Y.

KEENE IN CONTROL.

(Continued from page 75.)

The income and disbursements for three years are given as follows:

Income from dividends—

Declared by allied companies, 1899	\$644,624
Declared by allied companies, 1900	1,301,609
Declared by allied companies, 1901	1,362,824
	<hr/> \$3,309,058

Interest account & Excess of receipts over pay- ments, 1899....	\$37,880
Excess of receipts over pay- ments, 1900....	25,561
	<hr/> \$64,441

Excess of pay- ments over receipts, 1901....	22,556
	<hr/> 41,885

Total income.....	\$3,350,943
Expenses paid, 1899	\$106,168
Expenses paid, 1900	101,877
Expenses paid, 1901	63,404
	<hr/> \$271,450
Charged off, loss on prop- erties that have proved valueless, and on con- tracts and guarantees..	618,835

Total expense, etc..... 890,286

Net income.....	\$2,460,657
Total dividends paid to Dec. 31, 1901, preferred..	\$1,445,548
Total dividends paid to Dec. 31, 1901, common..	811,067
	<hr/> 2,256,615

Balance of income—
Over expenses and dividends paid. \$204,041
The balance sheet as of December 31, 1901,
follows, compared with balance sheet of
February 1, 1901:

ASSETS.

	Dec., 1901.	Feb., 1901.	Increase.
Cash	\$74,323	\$425,746	*\$351,426
Mort. notes for prop. sold	15,000	.....	15,000
Acc'ts and bills re- ceivable ..	876,856	45,585	831,271
Treas. stock at cost....	292,443	.....	292,443
Net earn. prop. ac- quired, less a m o u n t received ..	.....	1,271,784	*1,271,784
Plants and fur.	110,856	.....	110,856
Investments.	24,928,646	25,141,149	*212,503
Total	\$26,298,125	\$26,884,264	*\$586,139

LIABILITIES.

Bills payable for money borrowed ..	\$450,000	.....	\$450,000
Deposits ...	.....	\$405,317	*405,317
Acc'ts pay- able to com- panies	597,326	.....	597,326
Surplus ....	.....	1,485,847	.....
Acc'ts pay- able	53,657	.....	53,657

Preferred stock	8,051,400	8,051,400	.....
Common stock	16,941,700	16,941,700	.....
Total	\$26,094,083	\$26,884,264	*\$586,139

* Decrease.

In his report to the stockholders President A. L. Kelley says: "Your special attention is called to the auditors' reports, presented herewith, which show the gratifying increase in the sales of our allied companies of 7½ per cent over the previous year, and, notwithstanding a decrease in the bicycle tire business, a profit which is highly satisfactory. The large variety of goods manufactured by the allied companies, which practically includes everything except boots and shoes, insures a good business and reasonable profit when trade is in a normal condition. Business in all departments has been excellent, the falling off in demand for bicycle tires being more than made good by the increased demand for automobile and carriage tires and general mechanical rubber goods. The business of two of the tire plants belonging to the company has been consolidated in Hartford, where we have a factory fully equipped to take care of the increased production without a material increase in the overhead expense. The physical condition of all the properties has been maintained, and all are in excellent shape."

Willis Takes Hold Vigorously.

E. J. Willis, of the Willis Park Row Bicycle Co., has thrown himself into the motor bicycle business with a vigor and determination that are inspiring to witness. There is nothing half way in his methods.

The moment he received his first sample of the 1902 Marsh he advertised it, and as a result it is a poor day when less than one hundred people do not visit his store to witness its operation and receive an infection of Willis enthusiasm. He has a competent demonstrator on the floor, and has also engaged John Ruel, the pacing expert, to go for the straightaway and, later, the track records on the Marsh racer.

In addition to riders, Willis's place is daily visited by dozens of dealers from the metropolitan district; and to hear him tell them that "you might as well realize it and prepare for it now as later: motor bicycles will outnumber the other kind in less than five years" is to appreciate that he is scattering seed that will surely take root, and shortly.

Sherman Startling the Natives.

George W. Sherman, who is "doing" New England in the interests of the Indian motor bicycle, daily gives the ocular demonstrations that cannot but bring results. In each town that he visits the Indian agent advertises the fact that Sherman will give an exhibition of hill climbing on the stiffest grade in the vicinity, and crowds invariably are attracted. He has conquered such historic knobs as Corey Hill, Boston, and College Hill, Providence, in a fashion that made the natives gasp.

WITH \$120,000,000 CAPITAL.

(Continued from page 75.)

King Hardware Co., Beck & Gregg Hardware Co. and Dinkins & Davidson, Atlanta, Ga.; Palmer Hardware Co., Savannah, Ga., and Carlin & Fulton, Baltimore.

Moore & Schley, of this city, and George B. Hill & Co., of Pittsburg, are financing the new company. It will be incorporated under the laws of New Jersey, with \$40,000,000 of preferred and \$80,000,000 of common stock. The preferred will be cumulative, at 6 per cent interest.

Constituent members of the trust are to receive preferred stock equal in amount to the actual inventoried value of their stock in hand, accounts receivable and real estate. The value of the goodwill of each concern will be paid for with common stock, and will be estimated on the amount of business controlled for several years.

A name for the consolidation has not as yet been selected. There has as yet been no formal choice of officers, but reports state that the following will be the officials: E. C. Simmons, president; John Bindley, vice-president, and W. D. Simmons, chairman of executive committee.

General headquarters for buying, selling and transportation will be established in St. Louis. The Eastern members of the executive committee, which will consist of nine men, will have charge of the finances, the auditing and the insurance of the company, with general direction of its business in New York, New England, Pennsylvania and Maryland. They will probably have headquarters in this city. There will be a board of directors, consisting of twenty-five or thirty members. Each house will be held responsible for its own business, and will be closed unless it shows a profit. Its promoters expect that the combination will be able to effect economies in various directions, and especially in the purchase of goods, which will be done in very large quantities. It is also proposed to create a mutual insurance fund, thus saving the premiums now paid to regular insurance companies.

While \$120,000,000 looks stupendous—on paper—for a corporation that owns no factories, and therefore produces nothing, and while the list of those who are affiliated is formidable, the list of those who declined to "merge" is equally formidable, and these last express no fear of the bemillioned project. There are few houses in the jobbing trade who were not invited to "come in," but many of them took the view which is generally attributed to the Hubbard, Spencer, Bartlett Co., of Chicago. When the Chicagoans were approached by the promoters they are said to have given them this answer:

"Sell? Of course we will. We will sell anything we have—for cash; and you can have our entire business for \$4,000,000—in cash. If you have that amount—in money—the business is yours; if you have not, you will save your time and ours by keeping away from us. Good day, gentlemen!"

HOW MOTOR BICYCLES ARE BEING SOLD

Amazing Lack of Information on the Part of Salesmen and Failure to Make the Most of Opportunities When Presented—Experiences of “Prospective Purchasers” Range From the Amusing to the Aggravating.

“If you wish to learn something worth printing,” he said, “make a tour of the places that are trying to sell motor bicycles. I question if you will find one salesman in ten who knows how to ‘talk his machine.’”

The urging was heeded. The result is certainly both interesting and instructive.

In downtown New York two sporting goods stores which maintain pretentious bicycle departments were visited. The first was known to have recently taken on the agency for a well known motor bicycle, but none was visible in the show windows or in the front of the store.

“I hear you have a ——— motor bicycle here. May I see it?”

“I don’t know. I’ll find out,” responded the salesman. He called to the manager of the place: “Have we a motor bicycle here?” The manager was at the telephone, but he stole time to reply: “Yes; I’ll be there in a moment.”

When the “moment” had expired the manager assured his visitor that the motor bicycle “would be here to-morrow.” It was being “tested by the manufacturers to make certain that it was perfect before being delivered.”

In the other sporting goods place a few bicycles were in one window and a few more immediately inside the entrance door, but none was a motor bicycle. No salesman was in sight and none approached, a boy finally informing the caller that the motor bicycles were “downstairs.” And downstairs they were, two of them, one “jacked up” in a stand, the other leaning against the wall.

For fully five minutes the Bicycling World man examined the machine. He viewed it from the north, from the south and from every other point of the compass. He fingered the levers and other parts, and finally called out to a salesman who hurried past him:

“This is the mixer, isn’t it?”

“Yes.”

“What’s this pointer or indicator for?”

“That’s to tell you whether it’s full or not. I think it’s full now—I’ll be back in a minute.”

The salesman hurried upstairs, returned, but paid not an iota of attention to the man whom for all he knew might have been a prospective buyer of a bicycle netting the house more profit than any half dozen other bicycles on the floor. The reporter made several more laps around the machine, and

resurveyed and re-examined it. Presently the manager of the department, who was known to the Bicycling World man, came downstairs and engaged in conversation. After a couple of questions regarding motor bicycles he became quite frank.

“I confess I don’t know much about the mechanism of the machine,” he said, “and, really, I do not find it necessary to know much about it. The people want motor bicycles, and we have had no trouble in selling them. We sold five within the past three days. I don’t believe in going into technical discussions, even if I could, as most people could not follow me; and then”—and the manager said it half slyly—“one is likely to run afoul of men who know more about mechanics than he does and thus ‘corner’ himself.”

Entering the bicycle department of a large store that is now in its second year of selling motorcycles, the Bicycling World man did so with a feeling that, here at least, he would meet with his Waterloo in playing the green-horn.

The request for a look was met with the reply that the bicycle was uptown, but that an appointment would be made, and in the mean time here was some printed matter that could be studied.

“Well, it is uncertain about my keeping an engagement. I am really anxious to get at this thing at once. Can’t you give me”—then, calling attention to a quad and a tri-cycle that were on the floor, “don’t those things work about the same? Perhaps you can help me out by showing me those. I suppose the only difference is in the shape of the machines proper.”

“Oh, yes, they are practically the same. How do you work the thing?” Just move these two handles,” touching the air and vapor levers on the mixer barrel on top of the gasoline tank. “Set this one (the gasoline) forward and this one (the air) back, and you are ready to start.”

“That certainly is simple enough, but it seems to me I have heard or read somewhere that the atmosphere affected mixtures—that is what you call it, I believe—and you had to get a few pointers on this.”

“Not very often. You usually set them this way and start the machine, and after a few explosions you are all right.”

“Umph! How does the engine work?”

“That is what is called a two-cycle motor.”

“Oh, yes. I suppose that is because this machine”—it was a quad—“looks something like two bicycles side by side. When the motor is on a bicycle I suppose it is called one cycle.”

“Not at all,” with a fine contempt in the

tone; “that means that the piston goes up and down. When it goes up it is one, and when it goes down it is two cycles.” Discretion and an effort to keep a straight face suggested that this point be allowed to go by default.

“Now, I wish you would tell me what makes the motor work, and how it is done.”

“You see this?” pointing to the spark controller lever, “and this?” pointing to where the spark plug ought to be. “Well, an electric spark jumps from the first to the second and explodes the gas.”

“You can control the speed of the machine, I suppose? How is that done?”

“Well, that spark that I told you about runs up and down in the cylinder with the piston, and you move this (spark controller) handle and get early or late ignition. The faster the piston moves the more sparks you get for early or late ignition.”

“Then there is electricity with the machine? How do you work that?”

“You turn this left grip until it gets tight, and that makes the electricity.”

The salesman then attempted a demonstration of turning the grip. After turning it for some time, both to the right and to the left, without its getting tight, the suggestion was then offered that it be taken off and examined. This was done, but nothing was found by the salesman, and the grip was put back. During the balance of the time it was kept in constant motion back and forth, in an attempt at a careless manner, without any definite result.

The mere trouble was that the centre screw had gotten pushed back in the insulated block, so that the brass plate in the outer end of the grip could not take hold. And yet the salesman was careful to let it drop in his conversation that he was a motorcyclist of wide experience.

In another department store the seeker for truth and enlightenment found a sample machine on hand. Standing before it with a look of “I wish I owned one,” he greeted the approaching salesman with the query, “Electric?”

“No, gasoline.”

“How does it work?”

“Do you know how to run an automobile?”

The question was dodged by stating that the reporter did not own one. This was countered by the retort that “if you don’t know how to run an automobile there isn’t much use in trying to explain the working of this machine.” While trying to brace up under this rebuff and mentally figuring how much that salesman was worth to his employer, the Bicycling World man was left

in a hurry by the salesman, who took up an inquirer for a \$10.75 bicycle. It is worth mentioning in passing that the sale had not been made up to the time of leaving.

In the mean time a young man was pressed into service who calmly claimed that he rode a — machine last year on the track, and that it was driven by a strap, but that this year it was to be a chain driven affair. While the machine in question was not made last year, and has only made its appearance within the last month, the first claim was allowed to pass as a good bluff, and the seeming knowledge displayed about the method of drive used was accepted as a good augury, and hope bobbed up.

When the information was given that the handle controlling the needle valve of the mixer governed the exhaust to work the motor up and down, brooding doubt once more settled down with full weight.

A query for further information brought out that the battery case was the gasoline tank, and a suggestion that the wires leading from it were feed pipes was at first answered in the affirmative. This mistake was quickly corrected by the salesman, and the information supplied that it was a storage battery. To offset this error the lubricating tank was pointed to with pride of voice as the gasoline tank, the cap being unscrewed to prove the contention.

"What is this?" was asked, pointing to the carburetter.

"Oh, that has got a spring under it, and every time the spring moves the motor moves with it."

"Then you have to be supplied with electricity, gasoline and a spring to make these things go?"

"Well, I don't know much about the working, but I can ride them, and if you bought one you would only have to ride thirty feet when you would be all right."

As a final inquiry the muffler was pointed to. "What is that?" was asked. "That's the vent." The reply was correct, but the term was unusual.

The next objective point was a pretentious establishment on Forty-second street selling bicycles, sporting goods and automobiles. After roaming about the establishment for some time without the slightest effort being made on the part of the clerks to find out what was wanted, a positive effort was made to find the motor bicycle reported to be on hand. At last it was discovered, hidden between an automobile and a rack of golf sticks.

While handling the levers, turning the rear wheel and doing other things to attract attention, another outsider came up, who showed by his conversation that he was interested, and who further volunteered the information that he had been waiting around a quarter of an hour or more trying to have some one tell him about the machine, as he seriously thought of buying.

An effort was then made to get hold of a salesman. One was found selling a lamp,

another waiting on a golf customer, while two others were deep in the intricacies of ping-pong. In reply to a direct request for attention the two possible motor bicyclists were told that the man who knew about the machine was out.

Unlike their fellows across the big bridge, the Brooklyn dealers approached by the Bicycling World man appeared to be fairly well posted on motor bicycles. It did not take long to see that they knew something about them, both from a practical and a theoretical standpoint. Either they are keener at the game or the choice of those visited was a happier one than it was in the more populous borough.

The first dealer seen, who is located in the Bedford avenue section, stated, in reply to the question, that his concern did sell motor bicycles—all kinds. Given a little further encouragement, he led the way to a back room to show one of the machines.

It proved to be a well known make fitted with a motor of foreign origin.

"There is nothing like it to be had," he said. "No one in the world can make as good a motor as the Frenchman. Yes, that is kind of hard on us, but I suppose in the course of a few years we will catch up with them. But we can't match them now, at any rate. The fine work that is to be found on that motor is something wonderful. It's that that makes it run so well.

He adjusted the levers and gave the pedal a push, but only got one or two explosions. He repeated the performance two or three times, but with like ill success, although the mixture and the sparking were both varied repeatedly. At last he got into the saddle and began to pedal vigorously. The explosions came intermittently, but never regularly. At the end of about a couple of minutes, however, he struck the right combination, and the machine began to work beautifully.

"You see," said the salesman, who was breathing a little heavily, "you've got to get the gasoline to flowing properly before you start. If I had done that at first I would have had no trouble.

"Now, that machine will handle just as well as an ordinary bicycle," he went on. "You see, there's no pedalling to interfere with the steering. Side slip? Well, it will slip sometimes, just as any bicycle will if the road is slippery; but that does not often happen, and if it does it is not likely to cause any harm. I have seen several falls and no one was ever hurt.

"There's another beauty about it. It is geared so low—about 42 inches—that if you ever should have to pedal it there would not be any trouble. It would push almost as easy as an ordinary bicycle.

"What kind of a guarantee do we give with it? Well, we guarantee the bicycle and motor to be perfect, and if anything happens to either of them that is their fault we will make it good.

On the way out the Bicycling World man

asked if they sold any other make. He was answered in the affirmative, but the salesman pointed contemptuously at another machine which he sold and said that it was no good whatever. "It breaks down every time it is used," he added.

The second dealer was located not far from the Brooklyn City Hall. Of him the Bicycling World man asked the usual leading questions, and was answered freely and fairly, and with an intelligence that was very evident.

"Yes, we sell the Blank"—naming a well known machine, which was placed on a stand in the front of the show room. "Here it is.

"Is it a practical machine?" he repeated. "Yes, I think I can say it is. It has not been marketed commercially very long, but it has been tested for nearly two years and found to be all right. We have every confidence that it will do everything that is claimed for it.

He placed his foot on the pedal and gave a sharp push, but without the desired result. Irregular explosions followed after a few more attempts, but it was not for some little time that a satisfactory adjustment was made, and then the motor ran in an excellent manner, smoothly and with but little vibration. Then the dealer began to answer the questions asked him.

"The machine has passed the experimental stage, of course," he said. "But it would be foolish to contend that it has reached perfection. I doubt if the time will ever come when a motor bicycle won't give trouble occasionally. But it has reached a stage where it is safe for people to buy it.

"You see, the greatest trouble comes from the sparking. That is most likely to get out of order. Next to it comes the mixture. But if your motor is in good order and you get your mixture adjusted properly and the batteries are all right, the machine must go. There's no getting around that. But even if you should be caught once in a while it would not make such a great amount of difference. That machine will handle just as well as an ordinary bicycle if you have to pedal it, and push almost as easy.

"As I have said, the batteries are the greatest bother. They will last a thousand miles, and a new set can be procured at a low figure.

"It is not very much trouble to learn to run one. We had a young man in here the other day who had never been on one, and, really, he did not fully understand the working of the levers when he started; but he took the machine out and rode it on the crowded street for several miles without the least trouble. When he got back he was enthusiastic, and said he would have no trouble to get the hang of it so he could take it on a long run."

A number of questions were then asked as to the functions of the various levers, etc., to all of which intelligent replies were made. It was quite evident that the dealer understood the machine well enough to avoid being nonplussed by any one of average knowledge.

Neither of the two dealers interviewed, however, seemed to grasp the opportunity that was presented to them of painting the beauties of the motor machine in their brightest colors.

They seemed to take it for granted that the inquirer knew all about this or that it was self-evident.

JUST A SMALL CRACK

**How it is Proved That the Expert Repairer
Posed Under False Colors.**

The man who poses as an old-timer and expert on motorcycles and he who hopes to ride some time got together again for their weekly experience meeting. During a rambling confab the one who hopes launched into praises of a certain local dealer's ability as an expert repairer of motor bicycles.

"He may be an expert now," retorted the poser, "but he certainly fell down on a very simple case last fall. Here's an actual experience in which he figured. You can form your own judgment.

"At the last cycle show held in New York, about fifteen months ago, a resident of one of the boroughs bought a motor bicycle at the stand of one of the exhibitors. In placing his order and giving shipping instruction he furnished the name of this dealer that you mention, and asked that the machine be shipped in care of that address, as this dealer took care of all his other bicycles. This was done and a deal made with the regular agent for that section to allow this outside dealer the regular commission. The idea was to make it worth his while to look after matters in proper shape.

"Well, all went as merry as a marriage bell until well along in the summer. It seems that the owner of that machine has a summer home up in the middle of the State. For some reason or other he did not go up until about the middle of July. He was also owner, by the way, of a motor vehicle, and this he had shipped along by freight. The motor bicycle had been doing good service up to a few days before the owner's departure, when he took it to your expert dealer and repairer with a request that it be looked over and shipped on by express.

"Mr. Dealer put the bicycle in a stand and ran it with a series of starts and stops. His first move was to take the mixer apart to look for any clogging particles that might interfere with the gasoline feed. The results were not worth the effort. Other obvious things were tried, such as tightening up the wire connections to insure a full current. During these various periods of touch and try the machine would take an occasional spurt and run in the stand until it smoked. These times gave the dealer encouragement, and he would take the machine out on the road and at times get as much as ten miles out of it with only now and then a misfire.

"This went on for nearly three weeks, when the owner got tired of waiting and insisted on the machine being shipped him, no matter what the condition. It was duly crated up and forwarded, together with a modest little bill of \$10—what for, no one has yet found out.

"The express company did their work and

charged less for it. The owner then tried his hand, and finished up by writing the makers for help. They wrote back asking for 'symptoms,' got them, and sent back a diagnosis. Nothing more was heard from him."

"Well, I must admit that doesn't speak very well for my man when a letter could do what all his personal inspection failed to accomplish."

"It wasn't the letter. Yes, I know. Just wait a minute.

"It afterward developed that a friend of mine, who is particularly clever in taking care of his motor bicycle—he afterward told the case in an experience meeting—was riding through the country on his motor bicycle, up in the neighborhood of the summer home of this owner. The latter was out in his automobile, and, seeing my friend



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

on his bicycle, very naturally hailed him. During the resultant confab the troubles came out, and assistance was offered and accepted.

"In a comparatively short time it was found that the porcelain had a small crack down inside the body of the plug where it couldn't be seen without taking the porcelain out of the body. This crack permitted a short circuit of the secondary circuit. That is, instead of jumping at the poles of the plug, the spark had the effect of jumping across before it reached the poles."

"How do you account for the machine's running so well at times and then getting an intermittent fever?"

"There are several causes that might have been, and as I didn't see the porcelain I can't give you a definite answer. There are two theories, however, that might be advanced. If the crack was in beyond the binding shoulder on the plug, then it might be that if just the correct conditions of mixture and compression were had the jumping of the spark down in the body of the plug was effective. This would be something on the order of hot tube ignition, the gas being

forced down into the space between the porcelain and the inner wall of the body.

"The other theory—and the one I think nearer the actual facts—is that sometimes in screwing in the plug the pressure came just right to close this crack, thus preventing the short circuits. At other times the pressure either opened this crack or had no influence on it whatever, leaving it normal. It might be that unequal expansion of the plug body was the influence at work to open or close the crack."

For Woman to Decide.

Whether or not a woman rider may with propriety take part in a coasting contest was a subject which greatly exercised the last meeting of the Metropole Cycling Club. The question was raised by the application of a wheelwoman for an entry blank for the club's coasting contest in Boulevard Lafayette on May 10.

A. G. Ibbeken, chairman of the committee in charge of the affair, to whom the application was made, asked for instructions regarding such entries, and personally expressed himself as favoring them. Opposition promptly manifested itself, and for half an hour the discussion was spirited. The opposition based its objections on the ground that women competitors would give rise to false impressions, and renew some of the resentment provoked by the female scorchers identified with century runs. The other side maintained that to open the contest to women would be to promote a delightful sport, free from exertion, unpleasant spectacles or results, and which, with the coaster-brakes now in use, could be indulged in safely and decorously. This side also raised the point that there could be nothing more unladylike about a coasting contest than there is about a horse show, "riding to hounds" or a golf or a tennis match, in each of which women take part without offending good taste or public opinion.

After a long wrangle the question was left for woman herself to decide. She was barred from competing with the men, but if a sufficient number of wheelwomen manifest a desire to participate the committee was authorized to add a special contest for them, for which special prizes will be offered.

A committee was also appointed which will report the feasibility of conducting the opening race meet at Manhattan Beach on a colossal scale.

Buffaloians Become Philadelphians.

Harry Angle, formerly of the Universal Mfg. & Specialty Co., Buffalo, who recently joined the staff of Janney, Steinmetz & Co., Philadelphia, has been joined by Kirk Moore, for many years with the Crosby Company. Together they will develop a sheet stamping department for the Philadelphia manufacturers. Their combined experience and ability should render the task comparatively easy.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***



Always Satisfy—Why ?

Because made by a concern that has every modern factory facility for making perfect brass goods.

Because made by a concern that employs only the best skilled labor.

Because made by a concern that owns all the patents necessary to perfect gas generation in lamps.

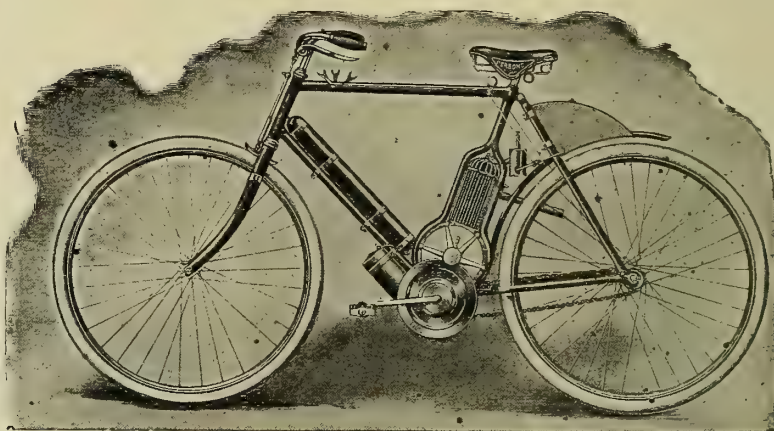
In short, because **MADE RIGHT.**

Solar Oil Lamps are as perfect as oil lamps can be made.

BADGER BRASS MFG. COMPANY, Kenosha, Wis.

TO-DAY is a mighty good day in which to apply for **The Royal Agency**

Riders are beginning to push, pant and perspire and will soon be in a frame of mind to be won over to the bicycle that prevents such discomforts.

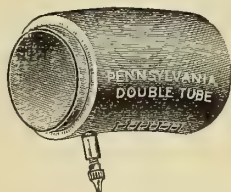


ROYAL MOTOR WORKS,

29-33 West 42d Street,

NEW YORK CITY

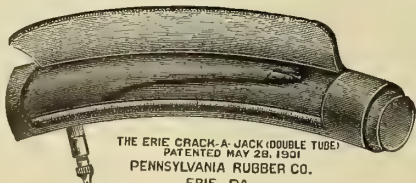
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO

BOSTON
PHILADELPHIA



C. B. BARKER & CO., Ltd.

93 Reade St., New York City.

EVERYTHING IN THE
Bicycle and Automobile
SUNDRY LINE.

Novelties Tools Specialties
Standard Goods at Standard Prices.

SEND FOR OUR CATALOGUE BEFORE PURCHASING.

SPECIALTIES:

NATIONAL CEMENTS.
COLUMBIA MORGAN BARS.
CRAWFORD BICYCLES.
BARKER BICYCLES
PIONEER TIRES.
FRENCH HORNS.
COASTER BRAKES.
HILTON VALVES.
DUNLOP TIRES.
LAMPS.

FAIRBANKS WOOD RIMS.
AMERICAN HORNS.
INDIA TIRES.
BELLS.
TIRES.
OILS.
TOOLS.
PUMPS.
WRENCHES.
ETC., ETC.

KELLY HANDLE BARS.

C. B. BARKER & COMPANY, LTD.
93 READE ST., NEW YORK CITY.

50,000 PAIRS TIRES

READY FOR DELIVERY

AT

\$1.50

\$1.75

\$2.00

Order your tires where
you can get deliveries
and right prices.

EYE-OPENING PRICES ON SUNDRIES

will be mailed to Dealers sending
in their business card.

Write us for

PRICES
on

Marsh Motor Bicycles

WE ARE ESTABLISHING AGENCIES.

WILLIS
Park Row Bicycle Co.,

23 PARK ROW,
NEW YORK.

The Retail Record.

Denver, Col.—John Jaeger sold out.
Ontario, Cal.—B. J. Warner sold out.
Keene, N. H.—Holman & Morse sold out.
Detroit, Mich.—George W. Breed sold out.
Campbell, Cal.—Al Smith opened new shop.
Bar Harbor, Me.—F. E. Sherman sold out.
Jacksonville, Fla.—R. H. Paschen sold out.
Meriden, Conn.—A. M. Shepard & Co. sold.
Whitesville, N. Y.—E. J. Burr opened store.
Willard, N. Y.—James Quinn opened shop.
out.
Dayton, O.—William F. Haas & Co. sold out.
New Milford, Conn.—P. M. Cassedy opened shop.
Donthan, Ala.—Cumbie & Co. succeed A. E. Cumbie.
Cameron, Wis.—Carl A. Fossum, gone out of business.
Poultney, Vt.—Frank Race opened shop in Main street.
Rutland, Vt.—Frank Jones opened store in Main street.
Saybrook, Conn.—Coulter & Johnson opened store.
Fair Haven, Vt.—W. I. Smith moved to Hughes block.
Watertown, Mass.—J. Thorpe opened store on Spring street.
Allston, Mass.—Ernest Lee opened store in Union square.
Westport, Conn.—Frederick W. Kemper opened new store.
Oshkosh, Wis.—D. O. Chase succeeds Hoaglin & Chase.
Sebewaing, Mich.—E. O. Ruppert succeeds Ruppert Cycle Co.
Utica, N. Y.—Harry J. Moss opened store in Oneida square.
Ida, Mich.—William Gates opened store on South Main street.
Birmingham, Ala.—Warren Bros. succeed Biddle-Warren Co.
Tilton, N. Y.—J. F. Garrick opened store in Carmon House.
Creston, Ia.—H. W. Edaburn succeeds Anderson & Hastings.
Norwich, N. Y.—T. J. Manning opened shop in East Main street.
Elkins, W. Va.—A. J. Cunningham succeeds Kendall & Son.
Freeland, Pa.—Simon Miller opened shop in South Centre street.
Lancaster, Mass.—William Munn opened store in Turner Building.
Muncie, Ind.—C. S. Wachtell & Son, fire loss \$10,000, fully insured.
Marshall, Minn.—Dell Tubbs opened shop in J. W. Williams Building.
Geneseo, N. Y.—George Teasdale opened store opposite Opera House.
Detroit, Mich.—J. P. Schneider opened new store, 189-191 Jefferson avenue.
Indianapolis, Ind.—Robert J. Douglas opened store in East Ohio street.
Indianapolis, Ind.—Wheeler & Money opened store in East Ohio street.
Concord Junction, Mass.—C. E. Ridley opened store in McWalters Block.
Cleveland, O.—C. H. Merkle moved to Pearl street near Denison avenue.
Brighton, Mass.—Allston Bicycle Store opened at No. 334 Cambridge street.
Worcester, Mass.—Chresten & Wendt opened shop at 102 Southbridge street.
La Crosse, Wis.—Gudenschwager & Holbek open shop at No. 223 North Third street.

Coasting

THERE are many hubs called Coaster Brakes. Some are more or less beautiful—generally less. They will all permit the hub shell to rotate when the feet remain at rest, but this is not exactly coasting—the hub should turn freely on its bearings—as freely as the front wheel.

The

Cinch

Does—

IT COASTS.

In fact, it is

“The
One
that
Coasts”

RIGGS-SPENCER CO.

Manufacturers

ROCHESTER, NEW YORK

ODDS AND ENDS

The outdoor season was inaugurated at Vailsburg April 13. Although the blast from the northwest was decidedly cutting, there was a crowd of four thousand spectators present. In the half mile professional open final heat Kramer jumped into the lead in the backstretch in the last lap. McFarland made a brave fight, but was beaten out by two feet in 1:14. Hadfield was third, two lengths back. The limit men and the middle markers cut out too lively a clip for the scratch men in the two mile professional handicap; McFarland had enough of it after seven laps, and Kramer sat up in the backstretch of the last quarter, with a gap of thirty yards to close. Hadfield, with 120 yards, won handily in 4:24 4-5; Williams (150 yards), second; Bardgett (120 yards), third, and Krebs (180 yards), fourth. Billington won the quarter mile open amateur easily in 33 3-5; Coyte second, Cargen third and Classen fourth. The half mile novice was won by Brown; Carl second and Wilkins third. Time, 1:15. The five mile amateur handicap furnished lots of excitement for the spectators, Schlee, Billington and Classen fighting it out to the finish. Schlee, with 50 yards, won from a field of forty in 12:41 1-5; Billington (scratch), second; Classen (50 yards), third, and Coyte (200 yards), fourth.

Charles "Mile-a-Minute" Murphy and his brother, William F., are making another bid

for notoriety. This time it takes the shape of a steam tandem which in itself is somewhat of a freak, very much resembling a boiler factory on wheels. The engine is a double acting one, with cylinders $2\frac{1}{2} \times 3\frac{1}{2}$ inches and a $3\frac{1}{2}$ -inch stroke. It is equal to 2,500 revolutions a minute. The transmission is effected by chain and sprocket, even geared, so that the driving wheel has the same number of revolutions as the engine. This would give the tandem an indicated speed of more than three miles a minute. The twin boilers have been tested to a pressure of 360 pounds each. They claim to have sent the machine a half mile in 27 seconds—just as a breather!

The seventh annual road race from Paris to Roubaix, one of the very few remaining long distance events, was run on Sunday, March 30, starting at 5:15 a. m. There were 77 entrants, of whom 64 started. The distance is 268 kilometres, and the race was won by Lesna in 9h. 32m. Wattelier was second, 8m. later; Garin third, Chapperon fourth, Lepoutre fifth and Fischer sixth. The roads were bad in consequence of heavy rains, but a strong wind favored the competitors. Lesna's time last year was 10h. 49m. The first prize is 1,000 francs, the second 500 francs, the third 400 francs, the fourth 200 francs. The next four get 100 francs each, and the ninth and tenth 60 and 40 francs, respectively.

That cycling evergreen, Will R. Pitman, the youngest old man that rides a bicycle, and who makes his birthday an event, was fifty-three on Saturday last, and incidentally rounded out a quarter of a century of cycling. He celebrated the day and the quadricentennial by riding a century on Long Island and by taking a bath—in the ocean. The next day was one of his really "Happy Days": his picture was in the newspapers.

Walthour defeated Fenn two straight heats in a five mile motor paced race at the Atlanta Coliseum April 10. In the first heat Walthour finished four laps ahead of Fenn in 7:43 4-5. The second heat was ridden in 8 minutes, Walthour finishing first by three and a half laps. The one mile professional race was won by Moran, Rutz second and Turville third.

Arthur L. Atkins, who has been attached to the presidential staff of the American Bicycle Co., has been transferred to Chicago. The change has caused him to resign as a member of the Metropole Cycling Club's motor bicycle endurance run committee. The vacancy created has been filled by the appointment of Henry Van Arsdale, of the Wisconsin Wheel Works.

Iver Lawson sailed for Paris April 16, where he has contracted to ride in at least six races. He will be abroad about two months.



DON'T BE MISLED.

There are many other seat posts on the market but the roller bearings are found only in

THE SMITH TWO-ROLLER SPRING SEAT POST.

It brings you customers and keeps them for you. 100 PER CENT. INCREASE IN SALES THIS YEAR OVER LAST. A satisfied public is the cause. Order Today of Your Jobber.

JOS. N. SMITH & CO., - Detroit, Mich.

"MOTOCYCLES AND HOW TO MANAGE THEM"

REVISED EDITION

BOUND IN CLOTH

The only Book of the Sort in Existence

CONTAINS A MINE OF VALUABLE INFORMATION

PRICE, ONE DOLLAR

THE GOODMAN COMPANY

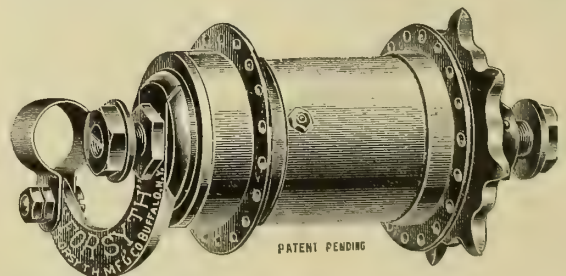
123-125 Tribune Building, - New York City

It matters little
which way you spell it,

F
O
R
FORSYTH
Y
T
H

spells

Coaster Brake Satisfaction



FORSYTH MFG. CO., Buffalo, N. Y.

MINNEAPOLIS'S SCHEDULE

Revised Tariff That Applies on Repair Work
—How it is Issued.

The Minneapolis Cycle Trade Association, a model organization of its kind, does not permit its repair tariff to get out of its members. One is issued to each member, bearing his name and marked "Not Transferable." The prices, however, are not private, and as revised for 1902 are as follows:

TIRE WORK.

Vulcanizing one job.....	\$.75
Vulcanizing when tire is brought in separate .....	.50
Vulcanizing each additional job in same tire.....	.35
Vulcanizing stem hole and inserting new valve.....	1.00
Vulcanizing tire containing any anti-leak preparation (extra).....	.25
Plugging one puncture.....	.25
Plugging each additional puncture..	.15
Repairing puncture in M. & W. style of tire.....	.35 up
Repairing puncture and cementing on tire.....	.50
Repairing puncture when tire is off wheel .....	.25 up
Repairing puncture, clincher tire...	.25
New valve stem, double tube tire...	.50
Inserting new valve.....	.25
Inserting metal base valve.....	.50
Cementing on tire.....	.25
Automobile tires, 2-inch and under..	2.00
For each additional half-inch, 50c. extra.	

HANDLE BARS.

New stem.....	\$1.00
Reversing stationary bar in stem....	.75
Grips, per pair, cemented on.....	.25 up
Cementing on grips.....	.10

SPROCKETS.

New front sprocket for repair job...	\$1.50 up
Rear sprocket, regular stock.....	1.00 up
Changing either sprocket.....	.25 up
Brazing sprocket on shaft.....	1.00 up

CHAINS.

Cleaning chain.....	\$.25
Inserting one new link.....	.25
Each additional link connected to the new one.....	.10
Each additional separate link.....	.15

SPOKES.

Respoking one wheel, \$1.75; two wheels	\$3.00
Respoking, put in with new rim or hub, extra.....	.75
One new spoke.....	.25
Each additional spoke in same wheel	.10
Bluing spokes, per pair of wheels..	1.00
Charge extra for special spokes.	

CRANKS.

New crank, regular stock.....	\$.75 up
Spider crank.....	1.25 up
Duplicate cranks, list, and labor per hour .....	.50
Crank pin put in.....	.25
Straightening crank.....	.25 up
Splicing crank.....	1.00 up

GUARDS.

Lacing wheel and chain guard.....	\$.75
Lacing wheel guard.....	.50
Lacing chain guard.....	.35
Fitting new guard and cord, at lists; labor .....	.50 up
New brace on wheel guard, regular stock .....	.50
Two new braces (regular stock) on	

chain guard.....	.50
New wheel guard, complete.....	1.50
New chain guard, complete.....	1.00 up
New wheel and chain guard, complete	2.25 up
Above prices include cord and lacing.	

LATHE WORK.

Crank axle.....	\$1.50 up
Wheel axle.....	.50 up
Rear sprocket.....	1.50
New cones.....	.75c. to 1.50
Ball cups.....	.75c. to 1.50
Old cones redressed.....	.50
All new bolts.....	.25c. to .50
New nuts.....	.10c. to .25
Pedal pin.....	1.00 up

WHEEL WORK.

New hub at list, labor extra.....	\$1.50 up
Plain rim, put in.....	2.00
Laminated rim, put in.....	2.25
Clincher rim, put in.....	2.25
Enamelled rim, put in.....	2.50
Rims enamelled to order, each.....	.50 up
Trueing .....	.25 up
Coaster-brakes and wheels complete.	6.50
Coaster-brakes fitting old hub.....	5.00
Coaster-brakes, when necessary to machine to fit.....	6.00

ENAMELLING.

Plain colors, with or without stripes.	\$3.50
With transfers, 50c. extra.	
Knocked down frame and forks....	3.00
Light or mottled colors, \$1 to \$1.50 extra.	
Enamelling rims, per pair.....	1.00
Re-enamelling front fork.....	.75

FRAME.

Frame and fork building, for labor only	\$6.00
Cutting down.....	4.00
Cutting down and lowering hanger bracket	5.00
Inserting new tube.....	3.00 up
Inserting two tubes in same frame..	4.50 up
Inserting new head with one fitting.	2.50
Inserting new head with two fittings	3.25
Inserting new hanger bracket.....	3.50
Inserting new cluster fitting for seat post	3.00
Inserting new clamp fitting for seat post	2.00
Inserting new rear fork or stay....	3.00
Inserting new rear fork side and stay	4.00
Inserting new rear forks or stays and brace.....	4.50
Inserting new rear forks or stay brace	1.00
Inserting new rear fork side or stay and front fork side.....	4.00
With one new tube in same job..	6.00
Two front fork sides and rear stays or forks and brace.....	6.00
With one new tube in same job..	8.00
One rear fork end, \$1.25; two ends..	2.00
One rear stay tip, \$1; two tips.....	1.75
Building rear forks and stays complete	5.50
Brazing one loose joint in front diamond	1.50 up
Brazing two loose joints in front diamond	2.00 up
Brazing one loose joint in rear diamond	1.00 up
Brazing two loose joints in rear diamond	1.50 up
Repairing broken tube.....	2.50 up
Repairing two broken tubes in one frame	3.25 up
Lining up frame.....	.50c. to 1.50
For special factory parts, add extra cost and express charges.	

FRONT FORKS.

Inserting new stem, regular stock...	\$1.75
Inserting new stem, made to order..	2.00 up
Inserting new side, \$1.50; two sides..	2.25 up
Inserting new side and stem.....	2.50 up

Inserting new crown, made to order.	3.00 up
Inserting new crown, regular stock..	2.50
Inserting new fork end, \$1; two ends	1.50
Splicing stem.....	1.50
Splicing side.....	1.25
Straightening forks or stem.....	.50 up
Straightening forks and stem.....	1.00
New front forks.....	3.00 up
Enamelling and nickelling extra.	

STORAGE AND CRATING.

Storing wheels during riding season, week	\$.15
Storing wheels during riding season, month .....	.50
Storing wheels during riding season and wiping outside, and oiling....	1.00
Winter storage.....	1.00
Crating one bicycle.....	1.00

CLEANING BICYCLES.

Tandem	\$2.00
Bicycle	1.00 up
Polishing nickel parts.....	.50
Bicycle with coaster-brake, extra charge .....	.50
Chainless bicycle.....	2.50
Cleaning wheel bearing.....	.25 up
Cleaning hanger bearing.....	.50 up
Wiping outside and oiling chain....	.25

As to Borax.

Borax for brazing is a very old flux, indeed, and has been used for many years both in the metallic and ceramic arts. The borax used by cycle makers is calcined—that is, it is reduced to a powder by first heating it to such a temperature that it melts and forms when cold a hard glasslike substance. This is pounded up in a crusher or with a pestle and mortar, and is then ready for use. Ordinary borax, as procured from the neighboring grocer, will be found to bubble up when applied to the work, and difficulty will be encountered in making it act as a satisfactory flux. This may all be remedied by calcining it, as described. A method carried out with success is to fuse it up in a red hot shovel over a good forge fire. A good compound flux for brazing is Boron compo, a bluish tinted powder, which fluxes easily and which is easier to clean off than ordinary borax. It is a compound of borax with some other substance which leaves the borax much softer than usual after the brazing process.

Bicycles as Road Rollers.

After all, the best road rollers are bicycles or other pneumatic tired wheels. They do their work better and more surely than any of the machines designed especially for the purpose. Then, too, they are infinitely cheaper than the other kind, for they cost the road makers nothing. One has but to examine a cycle-frequented road to have this borne in on one. Cycle paths furnish the best evidence, of course, for they are not used by horse drawn vehicles. How the rough and uneven places are rolled and re-rolled, until they become smooth and easy to traverse! Even on a public highway the same thing is true if the number of cycles passing over it is large.

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

The Week's Patents.

697,055. Inner Tube for Pneumatic Tires. Frank A. Wilcox, Erie, Pa. Filed Feb. 6, 1902. Serial No. 92,803. (No model.)

Claim.—In an inner tube for pneumatic tires, an end closure comprising the end portion thereof turned back into the tube, and one side of the inturned portion of the tube cemented to the inner surface of the tube, and the adjacent faces of said inturned portion of the tube then cemented together, substantially as set forth.

697,073. Bicycle Gear. Eugene M. Davis, Dunkirk, N. Y. Filed June 10, 1901. Serial No. 63,924. (No model.)

Claim.—1. In a velocipede, the combination, with two driving shafts arranged parallel with each other, of connecting mechanism constraining the said shafts to revolve simultaneously, means for revolving the said shafts, similar toothed driving wheels secured on the said shafts, an intermediate shaft arranged between the two said driving shafts, a toothed pinion secured on the intermediate driving shaft and gearing into the said wheels, and means for connecting the said intermediate shaft with one of the road wheels, substantially as set forth.

697,104. Bicycle and Tricycle. Gustav A. H. Pietsch, Kiata East, Victoria, Australia. Filed July 27, 1901. Serial No. 69,981. (No model.)

Claim.—1. The combination of the frame, the steering wheel, a hand lever in rear of said wheel, a collar on the lower end thereof, a crossbar pivoted behind said wheel, link connection between said collar and crossbar, and connections between the said crossbar and the steering wheel shaft, whereby the latter is steered by and from said lever, substantially as described.

697,337. Coaster-Brake for Vehicles. Robert E. Hammer, Philadelphia, Pa. Filed July 22, 1901. Serial No. 69,280. (No model.)

Claim.—1. The combination in a combined brake and clutch, of a driving member having oppositely pitched cam surfaces, and a bearing surface, a driven member having bearing surfaces of which one is placed to co-operate with the bearing surface of the driving member, a stationary member, a piece having a cam surface directly operative upon one of the surfaces of the driving member and a second piece also having a cam surface, the same being operative directly upon the second cam surface of the driving member and on the same side thereof as the first piece, substantially as described.

697,390. Woven Tubular Fabric. William Beck, Lawrence, Mass., assignor, by mesne assignments, to the Preston Hose and Tire Co., a corporation of Maine. Filed Oct. 29, 1898. Renewed Jan. 22, 1902. Serial No. 90,845. (No specimens.)

Claim.—1. A tire tube of continuous woven fabric having a woven reinforcing ply overlying the tread portion of the tube and a second woven reinforcing ply overlying the first, together with two sets of stitching warps interwoven with the same weft threads of the first reinforcing ply, one set of said stitching warps being interwoven with weft threads of the tube proper and the other set being interwoven with weft threads of the second reinforcing ply.

697,391. Woven Tubular Fabric. William Beck, Lawrence, and James F. Preston, Boston, Mass., assignors to the Preston Hose and Tire Co., Everett, Mass., a corporation of Maine. Filed Jan. 6, 1900. Renewed Jan. 22, 1902. Serial No. 90,843. (No model.)

Claim.—1. Fabric hose for tires, the same comprising a continuously woven tube, and a plurality of tubularly continuous reinforcing plies overlying the tread portion of said tube and stitched together and to the tube.

697,392. Art of Weaving Tubular Fabrics. William Beck, Lawrence, and James F. Preston, Boston, Mass., assignors to the Preston Hose and Tire Co., Everett, Mass., a corporation of Maine. Filed Jan. 6, 1900. Renewed Jan. 22, 1902. Serial No. 90,847. (No specimens.)

Claim.—1. The improvement in the art of weaving tubular reinforced fabric for vehicle tires, the same consisting in weaving a continuous tube and simultaneously weaving a multi-ply reinforce over the tread portion thereof and uniting the same to the tube proper.

696,201. Sparking Igniter for Explosive Gas Engines. Frederick A. Seitz, Newark, N. J. Filed July 18, 1901. Serial No. 68,730. (No model.)

Claim.—1. A sparking igniter for explosive gas engines, consisting, essentially, of a bushing provided with a bore, an insulating ring in said bore, and a dividing wall of insulating material, forming a pair of chambers, an electrical contact making and breaking rod in each chamber, substantially as and for the purposes set forth.

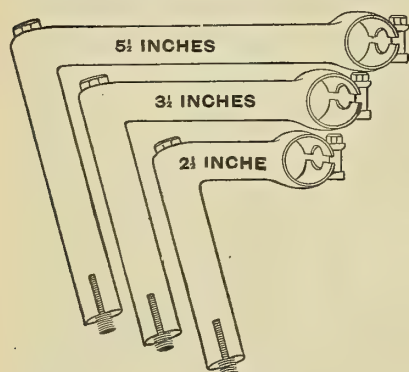
TRADEMARKS.

38,090. Bicycles. William Allen Chipman, New York, N. Y. Filed March 1, 1902.

Essential feature—The word "Rhodia." Used since Aug. 16, 1901.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

IDEAL HANDLE BARS



Patented June 13, 1899.

For 1902
ARE BETTER THAN EVER,

and sold for only a small advance
over cheap trash.

ORDERS PROMPTLY FILLED

We make extensions out of forged steel with a forward throw of 2 1/2 inches, 3 1/2 inches and 5 1/2 inches.

We also make bars for Motor Cycles, with re-enforcement so they will stand, with raise or drop of 1 1/2 and 3 inches.

Write for prices to the

IDEAL PLATING COMPANY,
3 Appleton Street, BOSTON, MASS.

Schrader Universal Valve.

(Trade-Mark, registered April 30, 1895.)

—NOTICE—

Manufacturers of Bicycles, Jobbers and Dealers:

In order to facilitate the
obtaining of

PARTS

of the

SCHRADER
UNIVERSAL VALVE,

I have concluded to sell parts
only to the general trade.



Parts 99-1, 99-2, 99-3, 99-4,
may be had from all the
makers, or from
A. SCHRADER'S SON.

Price List and description
of parts sent on
application.

Simple and
Absolutely Air-Tight

MANUFACTURED BY

A. SCHRADER'S SON,

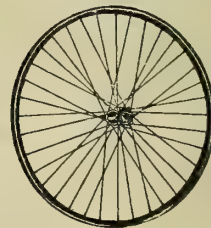
ESTABLISHED 1844.

30 and 32 Rose Street,

NEW YORK, U. S. A.

Do Not Buy
Bicycle Goods

Established 1893.



UNTIL YOU GET OUR CATALOGUE.

WRITE TO-DAY.

The E. H. HALL CO., Inc.,

177 Elm Street,

ROCHESTER, N. Y.

THE OLDEST EXCLUSIVE WHOLESALE BICYCLE
SUPPLY HOUSE IN AMERICA.

The H. A. Matthews Mfg. Co.

MANUFACTURERS OF

BICYCLE FITTINGS

of all description and of the finest quality,

SEYMOUR, CONN., U. S. A.

Pierce Cycles

FOR 1902

In Front



FRANK KRAMER, riding the Pierce Racer, won the Professional Championship of the United States for 1901. He has ridden the Pierce Racer for three seasons. In 1899 he won the Amateur Championship, and in 1900 was the next to the winner of the Professional Championship.

MR. KRAMER SAYS:

"The Pierce Racer suits me exactly, and I can win with it."

If Mr. Kramer can win the highest honors on the "Pierce" it surely must be good enough for anyone and good enough to "push."

The George N. Pierce Co.

BUFFALO
DENVER

NEW YORK
SAN JOSE

Brockton as an Example.

Nowhere is the revival of interest in cycling more pronounced than in Brockton, Mass. The Shoe City was once most devoted to the wheel, but the enthusiasm waned, and last year it reached a pretty low ebb. Now, however, it is on the high road to prosperity, and the dealers are rubbing their hands in glee over the changed condition of things. The Times of that city says that a tour of the local stores shows that dealers have orders for anywhere from thirty or forty wheels to more than one hundred, and the spring weather has just come in.

It goes on to say:

"The bicycle dealers are wearing happy smiles these days, and the reason is obvious. There has been no bad weather for more than a week. It has shown a little chill in the evening, but has been generally good and of the kind that makes a rider's blood run fast. Business is good, for various reasons. The riders at first got out their old mounts and tried a short trip or two. They met the boys on new machines, and somehow or other the men with the fresh mounts appeared to slide along easier, and they looked a good deal better. The old wheel had been stored all winter and was a trifle kinky. The tires were apparently all right in the fall, but now they look treacherous and they pumped up hard.

"The rider naturally takes a trip to his old haunts, the bicycle stores. There he meets more friends. Many of them are buying new machines. The dealer gets his ear and tells him how much he will allow him for his 'ice cart,' and how little he will have to pay each week toward the balance. The new machine is tried, and then the fate of the rider is settled. He may not buy then, but he remounts the old machine and goes home. It pushes twice as hard, in his imagination, as it did when he started out earlier in the day. He stands it for a few days and then takes another trip to the bicycle store. Before long a bargain is clinched.

"It is the same story with hundreds. History repeats itself in this manner every week-day night in the year, and business is kept good. The dealer is happy and the purchaser is happier. He has a new mount that he did not plan on, and he has got it at a price that suits.

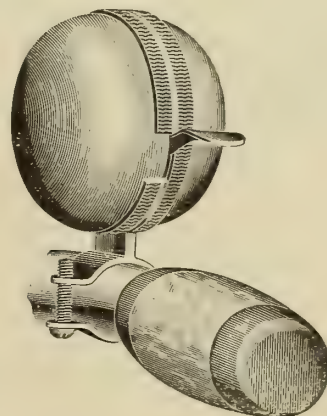
"Then there is the new rider. He is springing up every day. Boys are reaching the age when they and bicycles must be pretty close companions. A boy without a bicycle is in a worse fix than a lawyer without a client. Both combinations are necessary to life. The boy thinks so in his case, at least, and the lawyer knows so from experience. If the boys are not earning their own spending money the father has to hear about it until the machine is forthcoming. The father who can afford the machine will get it for the boy every time, not only because he was once a boy himself, but because he will save more than the price in nervous energy by complying with the request early.

"This source of business is no small one, and the dealer is looking for the boy as anxiously as the boy is looking for the machine. When a boy once learns to ride on the machine of a friend or on any one's machine, the matter is settled in his mind that he must have a bicycle. The boy is no credit to this great country who cannot find a legitimate way of earning the money."

Even if Riders Do not Purchase New Bicycles

they have need for

**BELLS,
TOE CLIPS,
LAMP BRACKETS,
TROUSER GUARDS,
Etc.,**



and, if you know anything at all,
you know that

BEVIN GOODS

are the ones that give the dealer
profit and the customer
satisfaction.

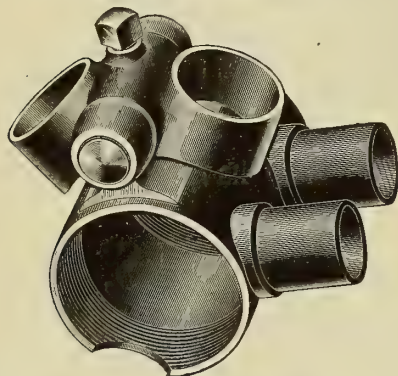
BEVIN BROS. MFG. CO.,

EAST HAMPTON, CONN.

Business Founded 1832.

Fauber Hinge Bracket

for Cushion and Spring
Frame Bicycles.

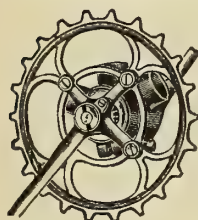


The hinge parts are made of forgings.
Bearing points are wide apart lessening chance for
lost motion.

The hinge pin is a hardened and ground taper pin.
Bracket for 1 1/8 in. and 1 in. tubing fitted to all
styles

FAUBER HANGERS

FAUBER MFG. CO., - Elgin, Ill.



"D. & J." HANGERS



FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.
Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

AND
The 1902 Light Weight Oil Lantern.
STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY
THE NATIONAL CEMENT & RUBBER MFG. COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

A Complete Bicycle Repair Business, for sale
cheap. GEO. W. YAW, Dowagiac, Mich.

WANTED—Everyone interested in motor bi-
cycles to purchase "Motocycles and How to
Manage Them." Contains 126 pages bristling
with information. \$1.00 per copy. For sale by
The Goodman Co., 154 Nassau St., New York City.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
423 Broome St., New York

Upon receipt of 40 cents in stamps, we will mail one
dozen of the MAGIC as a sample trial to any part of
U. S. A. Ask your jobber for it.



HAS A POINT ONLY 1/16 IN. DIAMETER.

Bicycle salesmen wanted to handle the MAGIC as a
side line.

THE MAGIC REPAIR TUBE CO., 248 LARRABEE ST., CHICAGO, ILL.

French Knit Racing Suits.

WE ARE SOLE MANUFACTURERS.

DEALERS WRITE FOR PRICES.

H. J. KOEHLER SPORTING GOODS CO.,
845 Broad Street, NEWARK, N. J.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

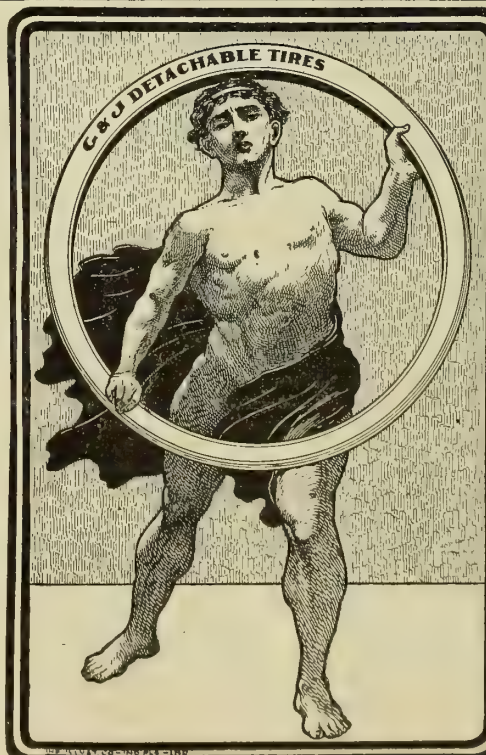
Sheet Metal Stamping.

THE ARMSTRONG "A" CRANK HANGER



is conceded by competent judges to be the
most perfect in point of design, mechan-
ical construction finish and materials used,
that it is possible to produce. Made in
one grade only, the highest. Handsome
in appearance; simple in construction; easy
and positive adjustment. We make the
most complete line of bicycle frame fit-
tings and crank hangers on the market.
Our 1902 prices are low. Write for them.

ARMSTRONG BROS. TOOL CO., Chicago.



G & J TIRES

EMBODY
ALL ESSENTIALS
OF

PERFECTION

Strength,
Durability,
Speed,
Ease of Repair.

1902 CATALOGUES NOW READY

G & J TIRE CO.
INDIANAPOLIS - IND.

MAKERS OF
G & J DETACHABLE TIRES
FOR ALL CLASSES OF VEHICLES



DYKE'S Bike Motor, \$35.00.

We sell the castings and working drawings also.

**Bike Motor Coils,
Plugs, Batteries, etc.**

A. L. DYKE, Mfr., St. Louis.

Our

Seat Posts

are unrivalled in

**MATERIAL,
WORKMANSHIP
and FINISH.**

**The Standard Welding Co.,
Cleveland, Ohio.**

OILERS.

"PERFECT"



25c.

"GEM"



5c.

"LEADER"



10c.

"CROWN"



5c.

"STAR"



10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

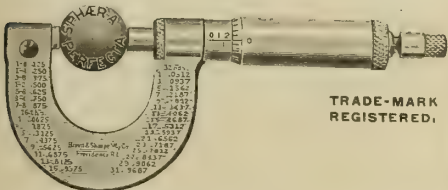
CUSHMAN & DENISON, Mfrs., 240-2 W. 23d St., N. Y.

DIAMOND TIRES FOR

Carriages, Automobiles and Bicycles.

Made in AKRON, OHIO, by

THE DIAMOND RUBBER COMPANY



TRADE-MARK
REGISTERED.

STEEL BALLS

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

The Week's Exports.

Honors were easy between Great Britain and Denmark on last week's manifest of American cycle exports, each of them taking upward of \$15,000 worth. Germany purchased to the extent of more than \$9,000. France \$5,467. Holland \$4,800, while Norway and Sweden each passed the \$3,000 mark. The record in detail follows:

Amsterdam—139 cases bicycles, \$2,033; 21 cases bicycle material, \$593.

Antwerp—11 cases bicycles, \$504; 32 cases bicycle material, \$1,174.

British Guiana—3 cases bicycle material, \$228.

British West Indies—15 cases bicycles and material, \$345.

Bremen—2 cases bicycles, \$50; 2 cases bicycle material, \$125.

British Australia—31 cases bicycles and material, \$2,104.

British East Indies—27 cases bicycles, \$352.

Brazil—1 case bicycles, \$27.

Brussels—12 cases bicycles, \$180.

Bremerhaven—8 cases bicycles, \$525.

Central America—1 case bicycles, \$10.

Canaries—1 case bicycles and material, \$65. Copenhagen—681 cases bicycles, \$14,435; 18 cases bicycle material, \$876.

Christiania—65 cases bicycles, \$3,046.

Cuba—5 cases bicycles and material, \$250.

Glasgow—2 cases bicycle material, \$255.

Genoa—70 cases bicycles and material, \$2,167.

Hayti—1 case bicycles and material, \$12.

Hango—13 cases bicycles, \$375.

Helsingfors—48 cases bicycles, \$865.

Hamburg—306 cases bicycles, \$6,422; 52 cases bicycle material, \$2,488.

Havre—282 cases bicycles and material, \$5,467.

Hull—50 cases bicycles, \$1,100.

Japan—12 cases bicycles, \$145; 37 cases bicycle material, \$934.

Jacobstadt—35 cases bicycles, \$1,100.

Lancaster—3 cases material, \$280.

Liverpool—22 cases bicycles, \$600; 53 cases bicycle material, \$2,168.

London—30 cases bicycles, \$585; 113 cases bicycle material, \$5,653.

Malmö—12 cases bicycles, \$360.

New Zealand—2 cases bicycle material, \$25.

Odessa—1 case bicycle material, \$40.

Rotterdam—125 cases bicycles, \$1,860; 20 cases bicycle material, \$365.

Southampton—89 cases bicycle material, \$5,164.

Stockholm—130 cases bicycles, \$2,800; 17 cases bicycle material, \$819.

FEW MEN

ride in a box car when a
parlor coach is
within reach.

There's a like difference
between a

**RIGID FRAME
and a
CUSHION FRAME
BICYCLE.**

The Cushion Frame is the
parlor car of cycling.

It is comfortable,

It is luxurious,

It is restful.

Any dealer who knows any-
thing at all about selling
bicycles ought to know
the force of such
a simile.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

WE BOUGHT THE WHOLE BUSINESS,

13,300 Pairs ...of... New Brunswick Tires

WHEN THE FACTORY WAS DISCONTINUED.

They are Money-Makers.

They are selling fast.

You should get in touch with us quick.

Write us about our **\$15.00 BICYCLE.**

BOSTON CYCLE & SUNDRY COMPANY,

J. M. LINSOTT, Manager.

7 Hanover Street, BOSTON, MASS

HAVE YOUR BICYCLE EQUIPED WITH A

NEW DEPARTURE COASTER BRAKE

SOLD EVERYWHERE BY EVERY BODY

MANUFACTURED BY
THE NEW DEPARTURE BELL CO.
BRISTOL, CONN. U.S.A.

SELLING AGENTS
JOHN H. GRAHAM & CO.
NEW YORK CITY.

SOLAR LAMPS

ALWAYS SATISFY.

Badger Brass Mfg. Co., Kenosha Wis.

FAST TRAINS

Chicago & North-Western Ry.

- The Overland Limited*
California in 3 days
- The Colorado Special*
One night to Denver
- The Chicago-Portland Special*
Oregon and Washington in 3 days
- The North-Western Limited*
Electric Lighted—Chicago,
St. Paul and Minneapolis
- Duluth and St. Paul Fast Mail*
Fast train to head of lakes
- The Peninsula Express*
Fast time to Marquette
and Copper Country

NO change of cars. The best of everything. Call on any agent for tickets or address

461 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburg
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.

All American wheelmen who desire to keep themselves posted upon matters concerning the cycle in Europe, its trade, mechanics, and sport, should subscribe to

THE CYCLIST

AND BICYCLING AND TRICYCLING TRADES REVIEW.

The only recognized authority of English trade and manufacture. Sent post free to any part of America for one year, \$3.25. American manufacturers having novelties in machines or sundries to introduce should advertise in

THE CYCLIST.

Terms on application to

ILIPPE SONS & STURMEY, Ltd.,
19 Hertford Street, Coventry, England.

Members of the American Trade visiting England are invited to call at THE CYCLIST Office at Coventry or at 3 St. Bride Street, Ludgate Circus London, E. C.



Through Train and Car Service in effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car and Dining Car to Syracuse and from Toledo to Chicago.
"North Shore Special" has Dining Car to Albany, and from St. Thomas to Chicago. Both trains run daily and are made up of the most modern and luxurious vestibuled Sleeping Cars.
For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage Them"

is the very book you need.
Every page teaches a lesson. Every illustration "speaks a piece."

And there are 126 pages and 41 pictures, too
Price, \$1.00.
The Goodman Co., 124 Tribune Bldg., New York.

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday
at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis



Via Rockford, Freeport, Dubuque, Independence, Waterloo, Webster City, Fort Dodge, Rockwell City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars, free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting lines.
A. H. HANSON, G. P. A., Chicago

BOSTON & MAINE R.R.

LOWEST RATES FAST TRAIN SERVICE

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all Through trains.

For tickets and information apply at any principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on application to

R. J. MECREDDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, April 24, 1902.

No. 4.

HOUK'S DEEP, DARK POOL

**He Says There's one But no one Else Knows
Where it is Located.**

When George W. Houk, of Green & Houk, the Morrow representatives in Great Britain, was in this country, some three weeks since, he was quite successful in dodging the interviewers who sought him. Since his return to London, however, he has been particularly communicative and has served the American trade a good turn by spreading the news of the revival of trade in this country. The most important statement he made, however, was this:

"Before I left America I was present at a meeting of some big financiers who wished to see if it were practicable to make a pool in the coaster hub business, and we all had to put our cards on the table and show what business we were doing. It would have astonished you to see our figures and those of our competitors."

While it was known that several months ago rumor had it that efforts were being made to interest Wall Street in a coaster brake floatation, nothing came of it. Houk's assertion that a meeting for the purpose involving more than one company had been held during his visit was therefore an unmitigated surprise. Diligent inquiry, however, has failed to turn up a substantial shred of confirmation.

"There's nothing in it. It is merely a blast of Houk's 'hot air,'" was the designation applied to the statement by one man in the coaster brake trade.

From Morrow sources no information is obtainable that lends color to Houk's story.

"Mr. Houk spent several days in this country after leaving Elmira," says a letter from that place, "and possibly something in the way of a meeting such as he refers to was held after he left here. I, however, know nothing about it, and am rather inclined to discount the statement to quite an extent."

Frank F. Weston, manager of the Barwest Coaster Brake Co., is also in the dark regarding any such movement.

"We certainly attended no meeting of the

sort and threw no cards on any table," he said. "We are not interested in any pool, and do not believe that one can be formed. We are content to go it alone and do our own business in our own way."

Charles Glover, of P. & F. Corbin, writes: "We have heard nothing of such a meeting or movement, and doubt very much that there is anything in the report."

"We have been aware of a movement along the line stated," says A. F. Rockwell, manager of the New Departure Mfg. Co., "but we have not been specially interested in it, as we believe that with the big future of the coaster brake our best interests will be served by conducting our manufacture in our own way."

"We have no knowledge of such a meeting," writes H. B. Rose, manager of the Forsyth Mfg. Co., "but we think it quite possible that it could have been held without our knowing it."

International Suit to be Retried.

The suit of Brown Brothers, of London, England, against George J. Capewell and others, of Hartford, Conn., an action in which the plaintiffs claim \$200,000 damages for alleged breach of warranty, is to come on trial before Judge Townsend and the jury in the United States Court at New Haven on April 29. The case, which involves the alleged failure of a quantity of spoke making machinery to operate, was tried in October, 1900, and consumed about three weeks and resulted in a disagreement of the jury.

Rubber Goods Re-elect Kelley.

Following the turnover in the directorate of the Rubber Goods Mfg. Co. the new board re-elected A. L. Kelley, of the Mechanical Fabric Co., president. The other officers chosen were as follows: Vice-president, Eugene Underhill; treasurer, A. S. Swan; secretary, W. A. Towner.

Will Support a Racing Team.

The American Cycle Mfg. Co. will maintain a racing team this season. There has been much speculation on the point, but doubt was removed this week by official announcement that a team was being organized. Iver Lawson has already been signed.

WARREN IS IN STRAITS

For Want of Better Excuse, Bicycle is Blamed—Hayden Appointed Receiver.

The J. J. Warren Co., of Worcester, Mass., manufacturers of leather and canvas goods, is in financial difficulties. A bill in equity was brought against the company in the Superior Court at Boston on Thursday last by counsel for Benjamin F. Harrison and the David Moffat Co., of New York, creditors of the company. The petitioners asked that a receiver be appointed, with power to continue the business, and Judge Fessenden appointed as receiver William H. Hayden, secretary and treasurer of the company. He immediately gave bonds and qualified. Most of the company's creditors are New York concerns. Worcester banks hold the company's notes, but all are secured, so that they will stand no loss. The liabilities amount to \$70,000 and the assets to \$40,000.

The Warren Co.'s business was established in 1873, but despite the fact the embarrassment is attributed to "the decline of the bicycle industry." This because the company went largely into the manufacture of toolbags and other cycle specialties at the time of the boom. The factory will not be shut down. The purpose is to reorganize the company as soon as the present trouble is disposed of.

A. B. C. Securites Continue Active.

For the week ending April 19 American Bicycle Co. securities fell off a little in the number traded in, as compared with the previous week. The bonds advanced to 72½, while common and preferred each fell off a net point for the week. Dealings in common amounted to 26,100, at prices from 6¾ to 8½, preferred ranging from 23½ to 26½ on a total of 13,600 shares.

On Monday of the current week 5,800 shares common at 6¾ to 7¼, and 1,100 shares preferred at 25 to 25½, made up the day's transactions.

Tuesday's trading advanced in amount without a net change in prices. Common was traded in for 7,600 shares at 7 to 7½, and preferred for 5,900 shares at 25 to 25½. Bond transactions amounted to \$20,000 at 69¾ to 70.

SALESMANSHIP REDUCED TO A SCIENCE

How one Highly Successful Concern Schools its Salesmen and Weeds the Good From the Bad — Its Plan Unduly Elaborate but Modifications Applied to Motocycles Would Help Matters Amazingly.

One of the difficulties that meet every commercial house is the securing of competent salesmen. By competent salesmen is meant not merely the so-called good talker, but the man who has convincing speech, backed up by at least a general knowledge of the goods he handles. Inquire of any large concern and the sales manager will support the statement that the all-round competent salesman is hard to secure, and, once found, not allowed to go, except under extraordinary circumstances.

Perhaps no one concern has recognized this and studied out the matter to more logical conclusions and methods employed to make the studies effective than a well known Ohio manufacturing company building cash registers. When the present proprietors took hold of the establishment it was a bankrupt affair. In face of this and the fact that the product was looked upon as a business luxury, the proprietors have made a good sized fortune, and run their plant on a scale that many shrewd business men declared impossible.

Setting aside the factors of factory management and previous bankruptcy, any one will agree that a cash register could easily have the point urged against it by any storekeeper that it was a business luxury, only needed at the best under rare occasions. The makers referred to either realized this at first or soon came to an understanding after going into the market in the effort to dispose of their goods.

It served not the purpose to urge that telephones and typewriters were on the same general plane, as the greater sales were to be made among a class of storekeepers using neither of these adjuncts. All these and other linked factors brought the entire matter to the one groundpoint issue—salesmen.

To meet this issue was the point aimed at. It was not enough that men of pleasing address, fluent of speech and some possible knowledge of the goods handled should apply for positions. As a matter of fact the rawest specimen of humanity, from the general standpoint taken by many in hiring salesmen, could put in an application with a certainty of being given a hearing. It was this hearing that formed the real centre around which the selecting of salesmen hedged. This selecting was and is carried out in so unique a manner that it has attracted the attention of many and has been copied by a few, but not to the extent that it merits. It is to be noted that the originator and the few who have copied the methods

are all immense concerns, the largest in their class, and all selling what may be fairly called luxuries.

The general plan is as follows: In the factory a large room is fitted up on the plan of a small theatre. For the stage there is provided scenery representing all kinds of retail establishments. When an applicant for a position as salesman is to be tried out he is taken to this theatre and some one in the establishment does duty as the storekeeper who is to be brought into the buying mood. The embryotic salesman, in some cases it is plural, is first given general pointers, and then sent to the stage to make a sale. The one personating the storekeeper is thoroughly posted in excuses and arguments against buying gained from past composite experiences.

If the raw material seems promising, first failures are minimized, and frequently he acts as only a companion to a tried and proved salesman equal to any poser put to him by the supposititious storekeeper. Once or twice a year there is a general gathering of salesmen from all points, and with the accumulated experiences it is a case of Greek meeting Greek, the audience being large and the hardest non-buying arguments coming to the front.

While the plan as here roughly outlined is very elaborate in the establishment under consideration, and therefore impossible of carrying out in detail, its groundwork is so thoroughly good that it can serve as a basis for a to-be-hoped-for action on the part of those handling motor bicycles.

As the motor bicycle at present stands, it is suffering for a much needed school of instruction that will teach salesmen at least a few rudimentary lessons on the operation and care of these machines. Space might be devoted in calling attention to salesmen who have been met who failed to call attention to the fascinations of the machine itself, but for the moment it is assumed that this failure has its underlying cause in the lack of knowledge of operation that creates a certain, although it may be unrealized, timidity in approaching the customer.

The mere bluffing salesman may have his uses in working off goods that are out of date or for some other reason generally unsalable, but this class does not find his field in the kind of goods under which motor bicycles come. Here is needed the salesman of class, and the best class at that. Men of this stamp do not merely bluff through a sale; they become at least somewhat familiar with the details of the goods they talk. It is this that makes them salesmen in the

fullest sense of the word. The need for this kind is especially keen at the present time, when buyers are divided into two distinct elements—those who know absolutely nothing and those who are really posted.

Sales to the first element will be lost, because it is not enthused and made to believe from the faith within. The second element will also go to the wiser competitor, because it can be led to believe that even an inferior machine is superior from the surety with which the subject matter is handled. Dealers should remember that motor bicycle manufacturers send to them salesmen versed in the handling of the machine. If this is necessary when the purchase means a chance of profit from the turnover, how much more necessary is it that dealers should have equally intelligent salesmen when the sale is to be made to those who do not buy for business speculation?

How Money is Thrown Away.

"Talk about price cutting," said the traveler who represents one of the best known cycle sundries, "I maintain that half the people who do it are daft or should have their heads examined, at any rate. Here we are making an article on which we cannot begin to keep pace with the orders, yet will you believe it, the New England jobbers who take a large part of our output are selling the goods without making one cent profit? I know it to be true beyond shadow of doubt. They are simply giving away the goods. We get telegrams and letters fairly begging us to hurry shipments, and proving that the demand is keen; and yet the very people who send the telegrams and letters have sold all we have shipped them or may ship them at a positive loss. There isn't a shred of excuse for it. It's enough to make a man sick, and I say it is charitable to believe that the jobbers who are thus throwing away good money are not in their right senses. We are watching them, and before another season something is likely to drop."

Houk "Saw Things" Over Here.

The change of air or of smoking material must have considerably affected George W. Houk during his recent visit to this country.

On his return to London he informed a reporter that "the tendency over there (America) this year is toward heavier cycles, built higher, fitted with mudguards and more closely approximating to the English style. The little, low, short headed machine has been discarded, but, curiously enough, a return has been made to outside joints; roller chains are having a big vogue."

From whom Houk obtained his information or where he saw such bicycles as he describes is not stated.

SCORES THE SALESMEN

Says Half of Them do not Deserve to Succeed—Wherein They are Lax.

"The two pages which the *Bicycling World* last week devoted to the ignorance of the average salesman intrusted with the sale of motor bicycles, and of his failure to make the most of his opportunities and to 'get next' to inquiring visitors, was in the nature of a service to every one interested in the advancement of motorcycles," remarked a man who is of the number. "I happen to know that it caused an awakening in two or three establishments, and I have no doubt it carried a great deal further. It was just what was needed."

"But when you come to think of it, the state of affairs is not particularly surprising. I have about brought myself to believe that half the men in the bicycle business do not deserve to succeed. It is no wonder that so many of them just about eke out an existence. It seems as if they do not care to learn. Look at their unattractive stores! Look at their hackneyed ads in their local papers, when they do advertise! Look at their show windows! Did you ever see them contain any originality or know them to be changed more than twice in a season?"

"Did you ever buy anything in a bicycle store where you were not known and have the dealer or salesman try to interest you in anything else, or in a friendly way offer to show you 'something new that had just arrived'? How many of them ever offer a caller a catalogue or other printed matter, or diplomatically endeavor to obtain the caller's name that he may mail such printed matter or in any other way seek to cultivate the goodwill of a visitor, and thus have him call again? How many times have you heard a cycle salesman invite any one to call again?"

"It is small wonder that there are so few dealers who know how to make the most of motor bicycles. Most of them know the mechanism of motorless bicycles, and that's about all they seem to want to know. They don't even try to improve themselves. There's not one in ten who is a salesman, although I have no doubt each of them imagines he is one."

Californians Eat and Elect.

The trade of the Pacific Coast appears to "hang together" in an inspiring fashion. Renewed evidence to the effect was given when sixty-five members sat down to the annual banquet of the Los Angeles Cycle Board of Trade. On the same evening there were fifteen nominations made for directors, the board being composed of nine. The nine elected for the ensuing year were W. K. Cowan, A. B. Young, A. R. Maines, W. H. Hoegee, W. G. Williams, R. S. Hamlin, Phil Lyon and W. L. Loos, of Los Angeles, and Ed R. Braley, of Pasadena, which is near by. These directors will meet later and elect president, secretary and other officers and name committees.

Here's a Money Maker.

That consistent and prodigious money maker, the Continental Caoutchouc and Guttapercha Co., Hanover, Germany, which is now about the only concern that is making a direct and aggressive bid for the tire trade of the world, has declared another 45 per cent dividend. Its record for the last four years follows:

	1898.	1899.	1900.	1901.
Capital ..	\$250,000	\$500,000	\$500,000	\$625,000
Stock ...	362,555	412,120	369,995	389,950
Reserve fund ..	246,550	517,375	517,375	673,635
Net profit	231,375	292,350	312,490	349,795
Dividend.	55%	40%	45%	45%

The company also looks after the welfare of its employes in a manner that is uncommon. A staff pension fund of over \$90,000 exists, and substantial additions are made to it yearly. A workmen's fund is also in operation, and last year \$5,000 was added to it from the profits. The board are also considering a scheme for a widow and orphans' fund.

The Bicycle Refused to Break.

Niehaus & Dohse, the Yale agents in Dayton, Ohio, who for several years past have inaugurated the selling season by throwing a brand new Yale bicycle from the roof of their building, this year gave the Dayton public quite a disappointment and the Yale quite a boost, through no fault of their own. The object of the unusual and apparently foolish destruction of a good bicycle was, of course, to advertise the firm, a new Yale being offered the person who guessed nearest the number of pieces into which the bicycle would be shattered. The performance attracted general attention, as usual, but this time the bicycle refused to break. Although thrown from a four story building, only the frame was bent; not even a spoke was broken.

Linscott Getting his Full Share.

J. M. Linscott, the head of the Boston Cycle and Sundry Co., and who has the reputation of being the only jobber who has not been "mixed up" in the several explosions which have jarred the New England trade, reports having done a larger business than for several years. His over-the-counter cash sales have more than doubled, while his outside trade has increased 25 per cent. Linscott also confirms the general report that people are buying better bicycles than for several years, the demand running strongly for high grades.

Symptoms of a Shortage.

Symptoms of a shortage of low priced bicycles were observable last week, more particularly in New England. The E. P. Blake Co., of Boston, were among those who had read the signs aright, and, having made a favorable deal, were the only people able to meet the demand. In some quarters there is also complaint of the scarcity of juvenile bicycles.

BROOKLYN VETERAN BUBBLES

Schwalbach Says Revival is Genuine—Business Never so Brisk Since '97.

There is one veteran tradesman who does not spend any time regretting the past or bemoaning the future. He is always the first to perceive a gleam of sunshine, just as he was unable to see as many clouds in the past as his more pessimistic brethren.

The dealer is Alex. Schalbach, of Brooklyn. In a five minutes' chat with the *Bicycling World* man at his store the other day he fairly bubbled over with enthusiasm. It exuded from every pore.

"There's no longer any room for doubt," he said. "The revival is here now and can't be checked. More than that, everybody knows it. I don't have to talk revival. My customers do it for me, and I need but to listen and put in a word here and there to keep the ball rolling."

"Everybody is coming under the influence of the thing. The children want to ride as they never did before; boys and girls, men and women, all share in the desire."

"People who don't ride notice the change and come to me and ask what it means. I had a Brooklyn judge stop in the other day and ask me this question. I told him that it was due to a variety of causes. Automobiling has helped it along, and the increase in driving. People are getting out in the open air more than they have done for a number of years, and this influences others to follow their example."

"Look at the swarms of riders out to-day. There has been nothing like it seen for years—not since the boom days. It is going to get better, too. Every day other people are being induced to get out their wheels, too, by the mere sight of so many riders."

"See the effect on the trade, too. Why, it positively a difficulty to get waited on in the parts and sundry houses. We go in for a lot of stuff, and find people lined up in front of the counter six and eight deep. It takes half a day to get what you want. More than that, there's difficulty experienced in getting some kinds of sundries. The demand has swept away surplus stocks."

"I don't want to give you people the 'swelled head,'" Schalbach said in conclusion, "but there's no getting away from the fact that a very large share of the credit for this revival is due to the *Bicycling World*."

"You began to talk of it long before it came, and harped so much on the subject that others took it up all over the country, and in the end we began to believe that it was really coming."

"My March and April business has been the best since 1897, and this in spite of the unseasonable coolness. But, you see, there hasn't been much rain. That is what spoils our season."

The Difference Between Second-Hand.

"How times have changed!" observed C. A. Persons, of the Royal Motor Works. "It used to be that if one rode a bicycle around the block the bicycle became a second-hand article and deteriorated in price. But with the motor bicycle nowadays a prospective purchaser wants to see it ridden fifty miles or so before buying, and after such use is the readier to pay full price."

FEBRUARY 28, 1902.

NATIONAL CYCLE MFG. CO.,
BAY CITY, MICH.

GENTLEMEN:—Last May I bought from your local agents, Messrs. Chadwick & Morris, one of your chainless models with cushion frame and coaster brake attached.

After nearly a year's use it gives me great pleasure to tell you that the bicycle has given me complete satisfaction, and I believe that for ease in running and durability it cannot be excelled. I have ridden nearly all winter and have given the bicycle more severe usage this winter than months of use in the summer time. For about one month this winter I think my wheel was about the only one seen on the streets of Lockport, and during that time I have ridden the wheel over places that would put an ordinary wheel out of business. When you consider that I weigh nearly 200 pounds and that I rode over frozen roads and always at a fair rate of speed, you or anyone will agree that it was a good test of strength.

I have ridden bicycles for upwards of seventeen years and have owned or ridden nearly all of the leading makes, and can add nothing further in commendation of your wheel than to say that after the year's experience I have mentioned I am thoroughly satisfied with the National Bicycle.

Yours truly,

(Signed) AMOS H. GARDNER.

SATISFIED RIDERS ARE OUR BEST ADVERTISERS.



“NOW, DON'T FORGET I WANT THE BEST TIRE.”

How often this is said to you, Mr. Dealer—it sometimes places you in an embarrassing position when the tire you recommend does not turn out well.



ALL THIS
CAN
BE AVOIDED
BY
SUPPLYING
THE
BEST.

FISK TIRES are the **BEST.**

FISK RUBBER COMPANY, Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00

Single Copies [Postage Paid] . . . 10 Cents

Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, APRIL 24, 1902.

The Golden Opportunity.

It has been said with a great deal of truth that a business or trade is just what the people in it make of it.

The saying is applicable in a marked degree to the bicycle trade at this time. It had sounded the uttermost depths of despair and desolation, and reached the point where a change of any kind was almost necessarily a change for the better.

Now it is engaged in watching the change. It was prophesied—timidly, to be sure, but with some slight portion of confidence—long ago. Slowly, almost fearfully, its approach was viewed. Cumulative evidence was obtained presently that a betterment was coming, but even then the news was almost too good to be true. A spell of bad weather or some other equally untoward happening might yet spoil everything, it was thought.

The period of doubt is at an end, however; and it might almost be said that fear has taken flight.

At any rate, the best season the trade has witnessed since the decline and fall of the

business is now in full swing. In the light of the past, it is instructive to compare the attitude of the trade now and in the pre-boom days.

Then there was an enthusiasm and a proselyting spirit abroad in the land that literally swept everything before it.

The trade was a unit in prosecuting the work of spreading the cycling gospel wherever there were people to hear it; and back of this trade there was a great and constantly increasing army of riders who seconded its efforts with a will and at times even urged the trade on to fresh endeavors.

The result is too well known to need dilating on. The movement gathered force until it became mighty enough to sweep before it the entire civilized world.

That trade and that riding public made cycling what it was.

When the tidal wave receded—for it had risen much too high to maintain anywhere near its level—a change came over the trade. There was first surprise, then dismay; a daring partaking of recklessness was succeeded by conservatism, then by extreme caution; later came not a few indications of panic. Since then matters have mended little, if any.

All this was natural and to have been expected. As the burned child dreads the fire, so the erstwhile plunging cycle tradesmen lost all desire to plunge. They had their work cut out for them to keep their heads above water.

But it is full time that a change was made. The tide is rising again, and while it will unquestionably fall far short of the previous high water mark, yet it is a tide that needs to be taken at this point and helped on to a culmination.

A tithe of the energy that marked the trade a decade ago would accomplish all that could be wished for. The leaven has begun to work among the riders, and it only needs concentrated effort on the part of the trade to second it and bring about the result so ardently desired.

Philadelphia Flame Fanning.

To lend himself to any and all movements which have for their end the increase of cycling interest and enthusiasm is really a part of the dealer's business, though there are many of his kind who can not or will not see things in that light. But in striving thus to promote his interests it is well that his business be kept discreetly in the far background.

The organization which the Philadelphia

dealers have called into being and the newspaper mention which it is receiving give rise to these remarks.

This dealers' association had laudably set out to do something to keep alive and increase the renewed interest in cycling. The "do something" is taking the form of a series of public runs, the participants in which are to be provided, at the dealers' expense, with "handsome souvenirs in the form of a badge." The feature of one of these Sunday runs is to be a "sacred concert."

The incongruity of intermixing business and sacred concerts is too evident to require comment, but the main point is the parading of one's business in the public eyes in events that should be made to appear unselfish. To drag "shop" into such affairs and flavor them with commercialism is a pretty good way to drive away a large class of people whose support and patronage are most desirable.

Philadelphia is peculiar in many respects, and because of the fact the programme outlined may achieve the results aimed at; but, speaking generally, we should say that such affairs, widely heralded as being promoted by a cycle dealers' association for the benefit of the cycle dealers' businesses, should result in a turnout that will prove picturesque, even if it does not prove profitable. To New York eyes, at least, a run of the sort, chronicled as it is being chronicled, would appear mightily like an invitation from the cycle trade to have the public gaze upon a round-up of its customers and prospective customers properly tagged with souvenir badges.

The Philadelphia experiment will be worth watching. Meanwhile we cannot say that we advise others to go and do likewise. It is better far to put such time, money and energy in the guise of a new bicycle club or to scatter it in an effort to revive clubs that are dormant. The organization of a new club or the revival of an old one, and the promotion of cycling events by such organizations, conveys a more wholesome and effective illustration of the renewal of cycling interest than a cry of "shop" raised by the shopkeepers themselves.

Demand Versus Supply.

It has been many a long day since there was a real scarcity of anything in the bicycle line. Bearing this and other things in mind, it were a rash prophecy that the present season will witness anything of the kind.

But stranger things than even this have happened. When the manufacturing end of

a trade gets into the habit of producing conservatively and solely to supply a very moderate anticipated demand, even a moderate increase in orders is sufficient to turn the scale and absorb surplus stocks as the sun licks up the dew on a June morning.

At this stage of the bicycle game it is the easiest thing imaginable to turn out bicycles, tires, saddles, chains, etc., as well as sundries of all kinds, in practically inexhaustible quantities. There is scarcely a factory in the land that could not double or quadruple its output should there be the slightest encouragement for so doing.

Therefore, it will be argued, such things as shortages have been wiped off the map.

But one of the prerequisites of the increased outputs referred to is the giving of a certain time for getting ready. No maker can start right in, without preparation of any kind, and turn out additional quantities of bicycles or parts as out of a hopper which had but to be crank-turned to produce this result.

Not even the best organized and equipped factory can accomplish impossibilities; and to jump the product of one up to several times that originally intended is quite out of the question at this late date.

It is pretty nearly a foregone conclusion, therefore, that if the present remarkable demand from the retail trade continues there will be breaches made in a number of stocks that at the beginning of the season appeared to be ample to supply all calls made on them.

Already there are whispers that certain lines of goods are difficult to get promptly.

Cheap machines, certain models that have proved unexpectedly popular, even sundries in a number of lines, are among the unfortunate ones.

The late arrivals will do something to prevent further breaches, but there should be two months of brisk selling yet, and it behooves far-sighted dealers to look ahead and make secure their sources of supply.

Cycling and the Soldier.

While little, if anything, is now heard of military cycling in this country, the English volunteers keep at it with praiseworthy persistence.

The "Easter manœuvres" were conducted as usual this year, and apparently with unwonted interest and success.

"In strong contrast to last year's fiasco," says one report, "we had a compact force of over 150 men, nearly all of whom had ridden since 1 p. m. some thirty miles, and had

been continually on the lookout over difficult country. Their pace had been a steady eight to ten miles per hour, and they were quite ready to do another thirty miles or more at this pace if called upon. The casualties over some 160 cycles amounted to three or four small punctures, which were easily and rapidly mended. One could not help admiring the extremely expert way in which the men handled their machines, and their workmanlike appearance."

The persistency of the Britons is in striking contrast to the spasmodic and short-lived attempts in the same direction which obtained in this country. It would seem, too, that the practical experience gained during the South African war should go further toward increasing the efficiency of England's cycling corps, and in making it of real service. While little has been said of it in the cables from South Africa, detailed reports appear to recognize that as a courier and scout the cyclist soldier is not to be despised. He has rendered conspicuous service to both the Boer and the British causes alike, and if the average American army officer were less concerned with his own affairs the lessons that may be learned would not be suffered to pass unnoticed. The value of the bicycle in a country of "magnificent distances," and in which fodder and water are scarce, is so apparent as to appear hardly worth pointing out.

Some day—at an eleventh hour, we suppose—the fact may dawn on the establishment at Washington.

Rain the Trade's Bane.

There are few, if any, merchants who are more dependent upon the weather for the success or failure of their selling season.

Even in the boom days of half a dozen years ago the coming of such a season as last spring would have meant the spoiling of what might otherwise have been a successful year. Linked with the conditions prevailing last season, when the lowest level in the history of the trade was reached, the result was a most lamentable failure.

With that in mind the opening of the present season was watched with anxious solicitude. It was felt that nothing, not even the expected revival, could stand up against such another one.

The Rubicon appears to have been passed, however, without the disaster so much feared having taken place.

Unseasonably cool as April has been, it was yet much to be preferred to the corre-

sponding month of 1901. Coolness dampens the cyclist's ardor, and retarded the development of wheeling enthusiasm. But it is infinitely preferable to rain.

The latter is the one thing the cyclist seems to be unable to contend against. Excessive heat, road inches deep in dust, a temperature many degrees lower than is seasonable, even strong and long-prolonged winds—these are submitted to with more or less grumbling, riding being indulged in with the hope that there will be an improvement.

But let the rain come—whether it be of the gentle, steady or the fierce, gusty sort, or the incessant downfall which spares nothing, and an effectual stop is put to cycling for the time being.

There is something in the look of it, no less than in the feel, that paralyzes wheeling effort.

This the dealer knows quite as well as the rider; and having learned to fear it, his constant prayer is to be delivered from rain.

"Give me anything but rain and I will not complain unduly," was the way one dealer put it to us. "But let rain come, and I feel like putting up the shutters. No one wants to ride or think of riding then. People will postpone purchasing until the sun comes out. They will even lose interest in purchases already made, and be utterly indifferent about deliveries as long as the downfall continues."

The fact is, there is no fun in riding in the rain, and we have so firmly grasped this fact that the instant rain comes in all thought of riding goes out.

Be progressive. Don't be afraid to follow an idea because somebody frowns on it as not being what he would do. Pioneers enter forests that are pathless. If you have an idea that sticks with you, and you can convince yourself it is good in spite of everybody's "knowledge" to the contrary, try it out. Be reasonable and conservative as may be, but blaze new paths if you can. The quickest fortunes lie in the yet unknown mines. They lie where grasses grow. You'll have to dig.

Window cleaning and window displays are often allowed to go by default on the plea that the storekeeper is too busy to attend to them in this rush season. As well might be the excuse offered that the stock has been allowed to run down from the same cause.

Taking it easy on the first run will make the second run easier to take.



MODEL 76 PRICE \$40.00

Orient Bicycles

KNOWN THE WIDE WORLD OVER.

WRITE FOR HANDSOME NEW CATALOGUE

APPLY FOR AGENCY

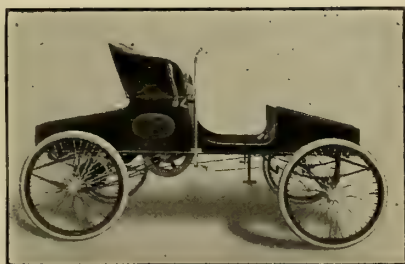
WALTHAM MFG. COMPANY, WALTHAM, MASS.

Reasons why the "BUFFALO, SR." is so Popular.

BOSTON HEADQUARTERS, 243 Columbus Ave.

NEW YORK HEADQUARTERS, 29-33 West 42nd St.

"BUFFALO, SR." AUTOMOBILE.



Model 7. Price, \$800.

6 BRAKE HORSE POWER MOTOR.

For PROFESSIONAL MEN,
BUSINESS MEN,
and FAMILIES.

6 Brake Horse Power Motor,
GUARANTEED.

2 Speeds and Reverse.

Long Wheel Base.

Wide, Roomy Seats.

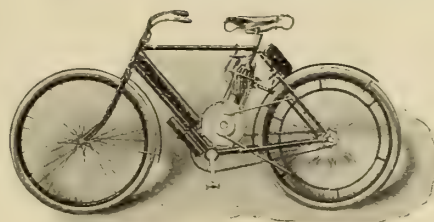
Tonneau Attachment.

Quiet Running.

COMFORTABLE.

RELIABLE.

"AUTO-BI" MOTOR BICYCLE.



Model 4. Price, \$175.

2½ H. P. Motor; belt-driven,
which is the

Favored Transmission
FOR MOTOR CYCLES.

THOMAS WORLD RECORD MOTORS.

BEST AGENCY PROPOSITION.

OUR GUARANTEE IS UNSURPASSED.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, 1200 Niagara Street, Buffalo, N. Y.

Experience That Went to Waste.

"What's that story about the dealer who sent in to the manufacturer of his motor bicycle a bill for \$20, \$15 of which was paid to an expert and \$5 more for telephone and messenger service, and was highly offended because it was not paid?" asked the weekly caller of the modest expert.

"That is a pretty little story, and the moral may some time help you. The dealer in question, as soon as he received his bicycle, commenced to loosen everything about it to familiarize himself with all the parts. In getting things together again he forgot to put the cardboard insulation back in the battery box. Of course, when he put the machine in a stand to show the admiring friends how nicely it ran there was trouble after the first few impulses. As soon as the machine got well into its gait the jar kept the cells of the battery dancing about, and every time one of the poles would touch the cover there was a short circuit and a missed explosion. Finally there were more misses than explosions. And then commenced the movement that resulted in that bill for \$20.

"The dealer hired an electrical expert and a gas engine expert, and they accomplished nothing, even in so simple a case, but put in good sized bills for alleged services. Next the maker was appealed to, and he sent his travelling man, who was in that section, to look into the matter. The trouble was located in about five minutes, explained and remedied. The dealer was so elated that he spent money in telephoning and sending messenger boys calling to the store everybody who had tried their hand at fixing things. Getting them together, he roasted them to a turn, showing how easy the whole thing was, and incidentally remarking that the so-called experts would have to whistle for their bills."

"Well, why did he send the bill to the manufacturer if he intended repudiating it with the experts?"

"Because the joy was short lived. After riding the machine around the streets for a time the travelling man took the train back to his route town. Hardly had the train left the depot when the trouble was on again. The travelling man was accused of juggling, and the bill went forward."

"Of course it was paid?"

"Not by a jugful! A long time afterward it developed in a roundabout way that when the dealer indulged in his roasting of the would-be helpers he opened the battery box to show how simple it was. In doing this the insulation in the cover dropped out without his noticing it, and, of course, when the box was closed up again the trouble was on again. In spite of his first experience he kept trying to make the machine run, and for two weeks never looked to see if the initial fault had been repeated. This in the face of the fact that the suggestion was made in a letter from the maker that perhaps this very thing had happened!"

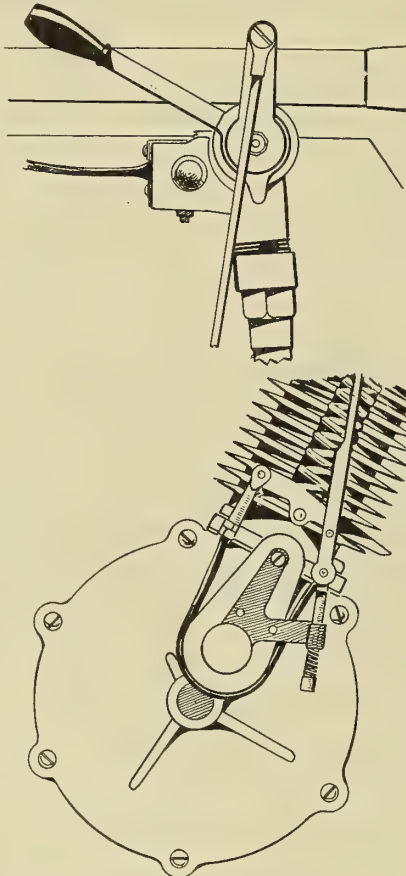
Hurrying has its uses; so does waiting at certain times. The successful man is he who hurries while he waits.

Single Lever Control.

Previous reference in *The Bicycling World* to the single lever controlling the electric circuit, the compression release, mixer throttle and spark controller has created an interest that can best be satisfied by the following description and accompanying illustration.

The illustration shows the parts with everything open. On the base of the controlling handle will be noticed a small projection, which, when it enters the copper plates just back of the mixer, switches on the electricity, acting on the principle of a jackknife switch. The round headed projection shown on the face of the outer plate is the usual connecting safety plug.

On the same base is a small arm reaching



forward and upward, to the end of which is pivoted a rod running to the spark controller. The lower end of this rod is split into two arms that are cross connected by two rollers. On the upper one of these rollers rests a pivoted arm that passes under the lower end of the exhaust valve spring. The lower roller bears on a movable pin hereinafter described.

On the case of the controller is fixed a plate with a projecting arm. This arm ends in a socket through which plays a plunger pin. The pin has a shoulder on its upper end above the socket, and below the socket a helical spring strong enough to hold it firmly in place, so far as operating the controller is concerned. The pin is like a part joined to the rod, and thus advances and retards the sparking.

The use of the spring and the pin comes in, however, in the next movement to be

described; that is, the lifting of the exhaust valve to open it. When the rod from the controlling handle has pulled the spark controller fully back in the direction of late ignition the pin commences to rise. After travelling a certain distance, by which the quantity of gas is reduced, the exhaust lever comes into operation. Then, as the rod comes up and back, slightly over the centre of the working lever or gas tap, the exhaust valve is held firmly open by the coil spring at the bottom.

By reversing the order the action will be quite clear. Suppose the working lever to be right back and everything off and the lever is slightly pushed forward. The first thing that happens is to switch on the electricity, next the exhaust valve closes, then commences the supply of gas at its lowest and increasing to full supply as the lever travels. Then begins the advance of the sparking up to the highest limit of the speed, so that, whatever speed is on, the whole of the movements can be pulled off instantaneously by one pull of the lever.

As to Enameling.

This preventive of frame rust and of the consequent peeling and chipping of the enamel comes from abroad:

"Immediately a frame is polished it should be taken to the enamelling shop and sweated. This process is carried out by well rubbing the frame with a sponge dipped in tar spirits, and baking for half an hour at 350° F. Before the frame has had time to get thoroughly cold apply a dead black first coat, and proceed as usual. The idea of warming the metal before applying the first coat is not new; it has been employed in many japanning trades outside the cycle trade for years, but it is like many old ideas—a very good one. Too much stress cannot be laid upon the importance of a dead black first coat. In the majority of cases where the rust has worked through, a dead black first coat had not been used, the frames having been dipped three or four times in the finishing varnish. A reliable dead black first coating is a thin and penetrative varnish which sinks into the pores of the metal, and is far more effectual in holding down any small particles of rust than the thicker finishing enamel. The frames may be dipped in tar spirits if desired before sweating."

The Englishman who gives this recipe states that he has a machine which was enamelled exactly as described above about six years ago, which shows absolutely no trace of rust.

Expert One-Armed Motocyclist.

M. E. Toppel, of this city, is probably the only one-armed motocyclist in the world. He not only invented the P. T. bicycle motor, but is well informed, and with his one arm is far more expert in handling motor bicycles than are most men who have their full complement.

"*Motorcycles and How to Manage Them*"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

ABOUT ADVERTISING

Ads. Should be Shaped to Induce Callers or Letters—The "Follow-up" is Vital

It is fairly safe to assume that no concern ever went in for advertising without at the least the hope of reaping from the sowing that had been done. This planting and garnering is a really close simile, for not only does one have to await developments from sowing before the reaping can take place, but there must be a knowledge of the soil to be used if best results are to be expected.

Just as in nature, where one soil will only produce certain crops at the best, another soil different crops under these conditions, and so on, and all soil some sort of crop, so it is in advertising. Certain advertising media lend themselves peculiarly to the ad-

formation. This will, first of all, indicate to the writer that the advertiser is anxious to assist by all reasonable means in power. This is a big step toward ultimately securing an order. At intervals of five or six days matters should be followed up, not in a worrying, hustling, punch-along style, but by means of carefully worded and interesting correspondence, until there is good reason to believe that the order has been placed elsewhere.

There is absolutely nothing to be said against such a method of procedure. Were the customer before the counter, every skill and ingenuity would be exercised to secure the business which presented itself. Why, then, should any other policy be adopted when the only difference is that the prospective customer has written instead of called? Besides all this, it is only fair to the journal that has been the means of bringing the inquiry that no effort should

AFFECTS CORPORATIONS

Bill in Congress Aimed at the Numerous and Nominal New Jersey Companies.

Representative McRae has introduced a bill in the House which, if adopted, will make important changes in the work of Federal courts. The bill provides that all corporations holding national charters shall in questions of jurisdiction of all actions by or against them and all suits in equity be held to be citizens of States in which they conduct their corporate business, and that no more jurisdiction between them shall be possessed by the Circuit and District courts of the United States than would be had by such courts in cases arising between individual citizens of the same State. It will be noted that this provision is substantially the same

READY-MADE ADS. FOR RETAILERS.

We Do Not Sell "Pretty Good" Bicycles

"Good Bicycles Only" is our motto and it admits of no qualifications.

That's why we've been selling the——bicycles for many years.

We do not believe in handling bicycles which we ourselves would be a shame to ride and recommend.

If you want merely a "pretty good" bicycle, see others; we have too much regard for our customers and for our reputation to sell them. If you want a good bicycle, see us.

Which is the Best Bicycle?

We believe we can answer that oft-asked question. We have some evidence that we are reasonably certain will prove the correctness of our reply. We'll be pleased to submit it to all who call.

IN The Cycling Revival THE BICYCLE

is playing its rightful part—the part of a leader of course. You all know the———and if you can realize that for 1902 it is just a little bit better than ever before you will be able to appreciate what a magnificent creation it really is. Seeing is believing. See it.

vertising of certain articles. It is the differentiating in the choice of soils that marks the successful farmer. It is this same particular knowledge of the province of each journal that enables the advertiser to produce a crop of results. The man or concern who possesses the keenest insight in this direction is, as a rule, best able to stimulate interest, then inquiry and finally business.

No advertisement in these days of keen competition should appear without a direct mission. It should induce those for whose perusal it was intended to write for further particulars. Here is what may be reasonably termed the germ of business, and upon the method of germ handling depends the percentage of resultant business.

Too often it is considered sufficient to give the bare information asked for, and then to consider the prospect at an end. Seldom will this lead to business, and where competition is active it may safely be taken for granted that it will not do so. The aim, therefore, should be to still further interest the inquirer by some supply, some unasked-for in-

formation. This will, first of all, indicate to the writer that the advertiser is anxious to assist by all reasonable means in power. This is a big step toward ultimately securing an order.

The advertiser who treats his inquiries in a loose manner and without method is too apt to cry out that "advertising doesn't pay." Rather should the acknowledgment be made that he has not the ability to make the most of inquiries, the best thing that advertising can give him.

In this matter of inquiries a large element of waste can enter if there is not an ability to separate wheat from chaff. This applies both to the inquiries and to the media used for advertising. If ultimate business is not proportionate to the number of inquiries, then there has been a waste.

Ball Bearing Motor Coming.

Rumor has it that De Dion-Bouton will put on the market a 1½ horsepower motor that can be put in any part of the frame. The decided interest in the matter is that all the running parts—the piston, of course, excepted—will be mounted on ball bearings.

as that which has been applied in the case of national banks, as provided in Section 4 of the Judiciary act of 1887.

The bill also specifies that corporations incorporated under State law shall be held citizens of the States where they conduct their corporate business or any part of it. They would thus fall under the jurisdiction of the State courts of the States, as would be the case with individuals. These provisions are aimed at States like New Jersey, which offer special facilities for incorporation, and would have considerable effect in altering the legal status of the corporations to which they apply.

Auto-Bi- on the Ground.

The Buffalo Automobile and Auto-Bi Co. have raised the Auto-Bi standard in both New York and Boston, in the former city at 29-33 West Forty-second street, in the latter at 243 Columbus avenue. Two rare motorcycle experts are in charge—E. J. Edmond of New York headquarters and C. S. Henshaw of the Boston establishment.

"Papa" Weston Declares Himself

The "father of American cycling," Frank W. Weston, has broken silence and placed himself on record in graceful diction. In issuing the circular outlining the season's programme of the Boston Bicycle Club, the first in the country, and which he organized—and the programme is ambitious enough to suggest that the "revival" has touched the vitals of the old 'uns—he pays his respects to cycling's detractors and presents his compliments to the mere faddists in this fashion:

"We have heard and read not a little about the 'decline of cycling' and the 'passing of the bicycle,' but surely we who introduced cycling in this country, who tenderly watched over and guarded it in its earliest struggles for recognition, are not yet ready to acknowledge either term. True, there has been of late years a decline in cycle riding, but mere 'cycle riding' does not constitute 'cycling' by any means. Of the cyclists who came into existence during and after the 'boom' days which marked our success, he who has ridden not for 'the joy of the riding,' but as a mere matter of convenience, a utilitarian means of progression, what does he—good fellow though he otherwise may be—know of the joys which are at the command of the true wheelman? He is a cyclist in name only; we can—in a cycling sense—part company from him without regret and without dignifying his 'passing' by connecting him even remotely with cycling as we know it.

"The time has not yet arrived for our old club to sit down, fold its hands and say, 'Our work is done,' for there are still ignorant thousands whom our example may inoculate with a taste for the delights of true cycling, and we and our juniors after us can prove as worthily successful in perpetuating as we were in establishing.

"In this spirit our plans should be—as they largely are—made for the coming season. Touring a wheel has truly been called the 'backbone of cycling,' and though we, who are most of us busy men, cannot continue to strengthen that backbone to the extent we might wish, we can do something toward it by participating as often as possible in the club fixtures, and by 'backing up' our captain in those plans for enjoyable club activity which he is now maturing."

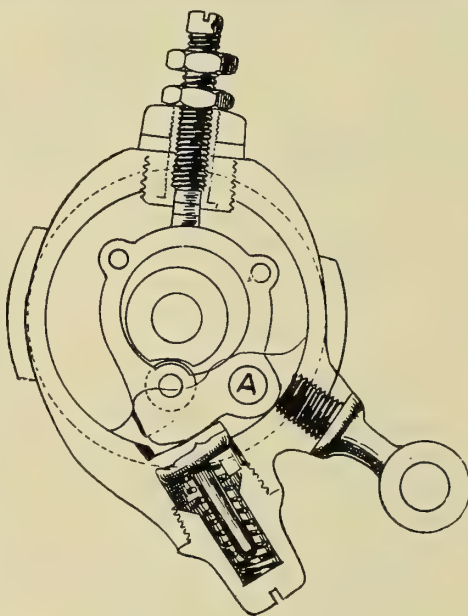
Something New in Spark Control.

Among the foreign made motor bicycles that are attracting attention is one known as the F. N., made by the Fabrique Nationale Company, of Belgium. This concern is well known in engineering practices, and among other things makes the Mauser rifle.

The bicycle motor made by this concern has an outside fly wheel, which at first attracts attention to it when among other makes. Apart from this item of construction, which does not appeal generally, the motor has a number of features, the most notable of which is the spark controller shown in the illustrations herewith.

The mechanism of this controller is contained in a hollow, bell shaped casting. The mouth of this bell faces against a flat surface on the motor, while the two short extensions on the sides are cams that pass under mating grooves on the motor crank casing. By merely turning the bell one-quarter of a revolution in either direction the projecting cams come opposite gaps cut in the grooves, when the controller can be instantly detached from the motor. The movement of the bell for timing purposes is, of course, never sufficient to bring the cams and gaps together.

The rod from the timing lever is connected to the projecting arm from the bell of the commutator by a small screw. In the bell is



pivoted on a screw, A, a ring, which in one part near the pivot has a square shoulder, against which a sliding bolt, passing through a hollow lug in the bell, is pressed by the action of a small helical spring, held in position by a hollow nut screwing into the lug. This spring tends to push the pivoted ring over toward the right side of the bell.

The ring just at the shoulder carries a small steel roller, against which a cam on the half speed shaft presses. In one portion of this cam is a notch, which permits the ring to rise to the position shown in the illustration, when a platinum point on its outer side comes in contact with a platinum pointed screw passing through a screw lug, and adjustable by means of a lock nut. To this screw one of the low tension wires is attached by a second lock nut, the other wire from the accumulators being taken to the frame.

When the cam is so turned that the notch in it is no longer in contact with the roller in the pivoted ring, the ring is carried toward the left side of the bell, the platinum contacts being thus separated. A small hole, covered by a spring shield, is situated in the face of the bell, so that the condition of the platinum points can always be readily ascertained without removing the commutator.

Brooklyn's Eloquent Welcome.

Unmistakable signs of a return to favor of the bicycle may be seen on our streets on days of fine weather, says the Brooklyn Eagle in an editorial entitled "Welcome the Bicycle." Last Sunday the riding on the boulevards and through the park quite recalled the old times, away back three and four years ago, when the paths resembled parterres of moving lights at night. This is a good sign. It means that one of the sanest and most healthful enjoyments possible to the public is not to be so neglected as it has been for the past year or so; it means, moreover, that paths and roads are to be restored to the fine condition they were in when the wheel was at the height of its favor; it means that people in the country roundabout will increase their revenues by ministering to the wants of the riders who flit about their precincts; it means that a stimulus will be given to the lagging industry of bicycle manufacture, with its various associated interests.

And if it means much to men who during much of the day are crouched over desks, stalled behind counters, mewed in shops and offices, it means yet more to women. Not till she had bought a bicycle did the American woman quite realize what freedom meant. A hundred ills, bred of the close air of the house and of days of inactivity, fled when she was able to guide the flashing steel over roads warm in the sunshine, fragrant with exhalations of woods and wild flowers. Her horizon widened, her cheek took on color, she gained strength, her eye had an added brightness, she lost the habit of being nervous and having dyspepsia; she had, in bicycling, an employment also that took her into the company of men folks, to the better happiness of both. People who rode as a fad will not ride again. They are rich and lazy, and will continue to trundle drowsily from their houses to the park and trundle home again, that being their exercise for the day. But live people will blow up the tires, oil the bearings and whirl away into the breezes and the sunshine and live the more.

Karl Kron Heard From.

Karl Kron and his full nickeled Columbia ordinary bicycle are now "doing" Great Britain, after a tour of the Holy Land.

When he landed at Liverpool a reporter who described the bicycle as of "the old high-flyer type with one enormous wheel and a small one for steadying purposes," asked the eccentric Kron why he chose such a machine to tour round the world, and was told that there were "so many darned hedges and walls in the country that he could not see over them unless he was high mounted." "Besides," he added, "cabmen and drivers can't see a cyclist on a safety—so called because it is the most dangerous kind of machine, and can be knocked over almost unseen. Every one knows that I am coming, and takes care, and I take care, too. There is no wabbling on this machine, I guess, and the motto is 'Beware and jump.'" He added that he was too old to ride a safety machine, as he required to see where he was going.

MOST IMPORTANT PART

National Says it's the Front Fork and why —The Influence of Fillets.

Whether one part of a bicycle is more important than another has long been a moot point. The subject recently was again brought up by a discussion of the proper forks for motor bicycles, and by the assertion of the National Cycle Mfg. Co., Bay City, Mich., in their catalogue that "the most important part of a bicycle is the front fork."

The National people base their statement on the ground that "breakage of the forks means injury to the rider from which there is no escape."

Aside from personal ends, the fact that the National Co. has steadfastly ignored if not opposed the so-called plate crown makes its "fork argument" of particular interest. It follows:

"National forks never break. The fork sides themselves are made tapering in their thickness, giving the greatest strength at the point upon which the greatest strain comes. The tubes from which they are made have the same outside diameters throughout their length, but in thickness vary from 18 to 20 gauge. After being drawn into this shape they are put under a hammer and swaged down to an external taper, the small end being at the axle of the wheel. They are then bent to the requisite curve. As an additional safeguard we braze into the small end of the fork a strip of steel, which makes a reinforcement which avoids the possibility of breakage of the fork tips.

"When placing our specifications for fork sides last year the manufacturer asked us: 'Why do you get so expensive a fork side? No one else does.' The answer was easy: 'Because we want them right.' They cost more, to be sure, but we can put them in a bicycle feeling assured that the rider will not have an accident.

"The crown is another important feature. It is a forging made specially after our own design, and that design is based on the principle that the leverage must be reduced as much as possible. In bicycles of the present style the head of the frame has to be made short, while the crank hanger has a low drop. It follows that the further the circumference of the front wheel is from the lower head bearing the greater will be the leverage upon both the crown and the fork sides. Upon comparison you will find that this distance on a National is from one-half to one inch shorter than in bicycles of other makes. This is particularly true of bicycles using the so-called plate crown and the high arched crown. We have used the present style of National crown for five years, having demonstrated that it was safer and better than any other made. This is not theory—it's fact.

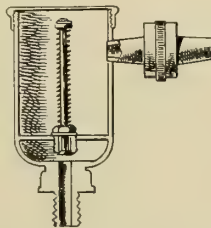
"In machining the crown, stem and sides an important point is frequently overlooked,

and that is the making of a fillet wherever two different diameters or sizes are joined. These fillets act the same as any other reinforcement, viz., serve to distribute the vibrations or strains throughout the entire length of the fork. While in themselves they appear a small item, they assist in making the strong front fork, which is one of the safe features in a National."

Next to the front fork, the National people place "the head as perhaps the most important part of a bicycle."

Regulating the Lubrication.

Lubrication is one of the most important items in the successful working of air cooled motors. The subject has been treated at some length in *The Bicycling World*, and the best known devices illustrated and explained. The illustration herewith shows something new in this line, and the device has seemingly excellent features.



The central valve works like the intake valve, and is similarly shaped. The valve is opened at each up stroke of the piston, being drawn slightly from its seating by the consequent vacuum in the crank case. This allows a small quantity of oil to flow into the chamber below and from there to the crank chamber. Per contra the down stroke of the piston and the consequent base compression seats the valve and shuts off the flow.

In the matter of regulation and supply the valve spring can be regulated to any tension to give a determined feed, while the upper chamber can be connected to a main tank, the supply being by gravity, and of any quantity.

This device certainly presents attractive features, as, in theory at least, it will not only enable the motorist to adjust the feed for oils of various densities, but to lubricate the motor regularly in place of putting in overdoses.

Geer's Repair Guarantee.

Harry R. Geer, of St. Louis, Mo., who is one of the real progressives of the retail trade, has carried the guarantee idea into his repair work. After the completion and delivery of each job he sends to the customer a postal card conveying this warranty:

"The repair work which I delivered to you on the — inst. is guaranteed for the current year. If at any time during this period it should prove unsatisfactory it will be made satisfactory free of charge."

Blake Increases Capital.

The E. P. Blake Co., Boston, has increased its capital stock from \$15,000 to \$25,000.

WHERE ACME STANDS

Manager Thompson Refutes a Mail-order Canard—Deals With the Trade Only.

"In order to disabuse the trade mind of the idea that the Acme Cycle Co., of Elkhart, Ind., is still in the mail order business," writes F. K. Thompson, secretary and manager of that company, "we wish to make announcement in accordance with the following facts: The Acme Cycle Co. was the pioneer in the mail order business, selling only high grade wheels. When competition compelled us to either go into the cheap wheel manufacture or deal with the trade we chose the latter horn of the dilemma, and for the past three years have sold only to the trade.

"Sears, Roebuck & Co. several years ago began using our name, Acme, and in spite of promises exacted by our attorney to discontinue same have continued to sell 'Acme' wheels, thereby getting the benefit of our years of advertising. This has been used as a sandbag by other manufacturers, and has been the means of deceiving dealers that we had in line. Our wheel is known as first class in every respect, and, we repeat, is sold to the trade exclusively.

"Every year our representatives are met also by the assertion, 'But we hear the Acme Cycle Co. has gone out of business'—a report most assiduously circulated by other and less conscientious makers of wheels. On the contrary, we are very much alive, and have at present in process of erection a new factory which will be equipped with new machinery and all modern conveniences for the manufacture of bicycles.

"We have been in the business for the past ten years. Our company is composed of some of the most prominent citizens of our town, and we will not be downed by the trust 'or any other man.' Our president, vice-president and treasurer are president, vice-president and cashier, respectively, of the Indiana National Bank of our city, and the secretary is 'not without honor in her own country.' This should be sufficient to set us right once and for all before the bicycle trade. We will be early in the field with our 1903 models, and have just now put another new model on the market made of 1-inch tubing, etc.

"We find a great revival in wheeling, and are working day and night to supply our customers. Our export trade has grown to large proportions, and we have not had such a general trade since 1895. We expect to be rewarded for sticking to it through all its vicissitudes." ***

The latest in pacing machines is an electric triplet for record pacing work. It is to be used in all important races in France during the season.

American vs. English Packing.

In view of the fact of the many consular reports from various parts of the world which have mentioned that American manufacturers are not sufficiently careful in packing their goods for export, it is interesting to note an instance in which American methods in the case of export goods have been held up as a pattern to British manufacturers. The New Zealand Loan and Mercantile Co., Limited, of London, writing to London Engineering, quotes as follows from a letter from one of its clients in New Zealand, to whom it had shipped a machine manufactured in England:

"With reference to the mitring box imported by you for me, it presented on delivery the usual exasperating contrast to neat American methods exhibited by the British manufacturer—rough, rusty, half painted, put together anyhow, and kicked at you, as it were, without the slightest rag of explanation or directions, and accompanied by a rough thing like a second-hand bullock yoke, which looks as if it had lain outside a country smithy for a couple of years or so, and the use of which we are utterly unable to understand; in fact, though well accustomed to machinery of various kinds, the way to use this thing has beaten the collective talent of the place altogether, and I must ask you to write to suppliers for directions for its use, keep and repair; for the intervening months it will probably remain as lumber. I

do not know if the British manufacturer ever does deign to explain his products; my experience after a good many direct importations is that, if he is only prepaid, he is satisfied to chuck his stuff, minus two or three of its parts, into the first old kerosene case he can lay his hands on, and kick it at you as aforesaid. I have imported apparatus, etc., from the States also, and the contrast is most exasperating to an Englishman—everything spruce, smart and complete in its place, paint complete, steel parts smooth and bright, every screw carefully supplied, copious directions, catalogues and literature generally, and the whole packed as if the customers, notwithstanding prepayment, were really worth pleasing with the result. This thing looks exactly as if it had been picked off a foundry scrap heap and dispatched by a scavenger for an old song; no screws are supplied, and goodness only knows what other parts are missing, or what on earth the use is of those that are sent."

The exporting firm adds this comment:

"Although several letters have been addressed to the manufacturers on the subject, thus far they have not replied to same, which is but another instance of the loose manner in which the British manufacturer treats his customers. We do not know that we need enlarge upon the above facts, suffice it to say that we frequently find orders going to America and Germany which formerly came to Great Britain, and we can hardly wonder at the change when we read such reports as the above."

The Acetylene Trouble.

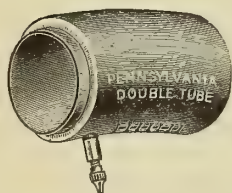
It is known that one of the reasons why acetylene burners sometimes choke is the presence in the gas of benzine vapor, which partly dissociates, deposits carbon round the fine orifices, and distorts or ruins the flame. Therefore, when acetylene is consumed alone every precaution is taken, by preventing superheating in the generator, to avoid polymerization which gives rise to the benzene.

It is also known that acetylene can only be economically diluted with a gas or gaseous mixture which possesses a high heat of combustion—the illuminating power of the diluent is a matter of secondary importance—such a material, for instance, as oil gas, which contains benzine vapor as one of its usual ingredients. Thus, with diluted acetylene, the same trouble of blocked burners is frequently met with.

Benzene can be removed from a gas by washing it with a heavy oil; but in general the process is avoided, as the loss of benzene involves a serious loss of luminosity, and a small loss in calorific power. When the gas containing benzene is to be used simply as a diluent for acetylene, the former loss is not very important.

For example, to quote some German experiments: An oil gas burnt at the rate of 27.5 litres per hour gave an illuminating power of 8 hefner units; after washing with the oil the luminosity reduced to 3.6 units—a loss of 55 per cent. When the same gas unwashed was mixed with 25 per cent of acetylene and burnt at the identical rate, the illuminating power was 15 units; after washing with oil 12.5 units—a loss of only 17 per cent.

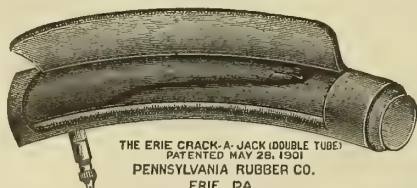
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



Don't close
until you
consider
our entire
line.

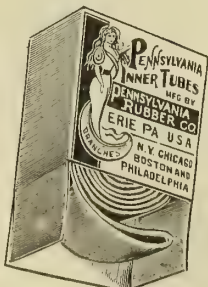
**PENNSYLVANIA
Rubber Company,
ERIE, PA.**

BRANCHES:

NEW YORK
BUFFALO

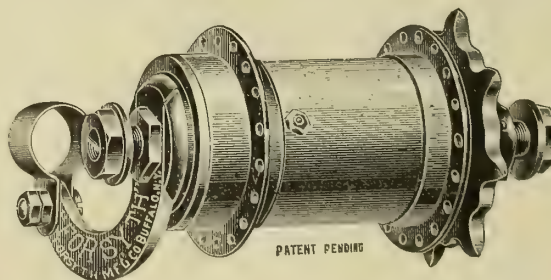
CHICAGO
PHILADELPHIA

BOSTON



For the Rider,
PLEASURE.
For the Dealer,
PROFIT.

That, in brief, is the mission of
The Forsyth.



FORSYTH MFG. CO., Buffalo, N. Y.

CONSUMPTION AND HILLS

For Motocycles—Twenty Miles on the Track and one and Half up Hill.

Despite the shortness of the notice and downpour of rain, the combined consumption and hill climbing trials for motorcycles held on April 5 within the Crystal Palace grounds, London, under the auspices of the Automobile Club (England) and the Cyclists' Touring Club, fifteen machines were started. The morning broke with a drizzle that increased to a fairly severe rain by noon. At 4 o'clock there was a promise of clearing up, and the last few drops fell just after the competitors had made a start.

Considering the inclemency of the weather there was a good crowd of spectators, and the trials were watched with keen interest from start to finish. Enthusiasm ran high when two of the competitors indulged in a brush on the track.

Motor bicycles of any horsepower and motor tricycles driven by motors of not over $2\frac{3}{4}$ horsepower—that is, with a piston sweep of not over 19.9 inches—were allowed to compete. One tricycle only was entered. No prizes or certificates were awarded, the results being merely published.

The machines were each driven twenty miles upon the track, and an hour was the maximum time allowed for the completion of the distance. The motorcycles were not each timed over the distance, so that, interesting as these figures would have been in comparison with those given, they are not available. Pedalling after the start on the track or a stop from any cause whatever disqualified the machine.

On the completion of the full distance on the track the machines were turned through a gate, without dismounting, and next sent at a hill which was to be climbed three times. The hill is 800 yards long and has a gradient at the steepest portion of 1 in $6\frac{1}{2}$. At the steepest portion of the hill the surface was decidedly greasy, and at the lower end of this portion an acute angle had to be negotiated. These conditions, together with the wet track, made the test fully as severe as any one could wish for.

On returning to the track the tanks were filled, and the amount used measured in ounces to determine the consumption. The winner, who climbed the hill without pedalling at the greasy section, averaged 1:51 2-5 for the three ascents and used 1 pint $14\frac{1}{2}$ ounces (by weight).

Of the fifteen starters only eleven essayed the hill. Only two machines made all three ascents without pedalling. One of these was a $2\frac{3}{4}$ bicycle and the other a $2\frac{3}{4}$ tricycle. Only one American machine was in the event, this being a Mitchell, ridden by G. V. Rogers, who is abroad in the interests of the Mitchell.

The enthusiasm in the track event was

furnished by Mr. Rogers, who, after going a few miles, reversed his leather cap, pulled it over his ears and gave the Mitchell its head. Crouching low and with arms akimbo, his pace increased to better than thirty miles an hour, passing the rider of a $2\frac{3}{4}$ bicycle who had been the one to hang on. Rogers's fastest mile was made in 1:41, which is within 12.5 seconds of the record for the track. The twenty miles on the track were made by him in 37 minutes.

Before returning to the United States Rogers will lower the above mentioned mile record with a Mitchell motor bicycle selected at random from the regular stock of some disinterested party.

That Mr. Rogers is taking in the events is shown by the following clipping from a Welsh paper: "At this stage G. V. Rogers, representing the Wisconsin Wheel Works, of Racine, Wis., gave an exhibition. With a flying start the half mile was covered in 53 2-5 seconds, the time for the first quarter being 27 seconds. The time was taken by the N. C. U. official timer." In a letter home Mr. Rogers states that the track was of the proverbial rocky-road-to-Dublin surface, and that he had an exciting time staying on the machine and holding the track.

Farmer Faust Objects.

If the name "John Faust, Marion, Kan.," is on your mailing list, strike it off. Mr. Faust requests it for the very good reason that he is not in the bicycle business, never was and never expects to be. He is a simple farmer, is Mr. Faust, and, as he himself says, is more concerned with cinchbugs than with bicycles. Here is his own story as told in a letter to a manufacturer who favored him with an illuminated hanger:

"I return picture sent me, and will impart the startling intelligence that I keep no store of any kind. I have been highly flattered in having been thought to keep a store, but I never kept one and never intend to. I am a farmer; live two miles from Marion; raise corn and wheat when I am not fighting cinchbugs and Hessian flies. I plead guilty to having bought a bicycle from the Monarch Mfg. Co., of Chicago, in May, 1899, and since that time have been the recipient of a good deal of gratuitous bicycle literature. How my name got on the business list I don't know; it must have been the work of some practical joker, and any one will convey a favor on me by taking my name off the list. Hoping this and picture will reach you all right, I remain, Yours for corn and wheat.—John Faust."

This from a foreign exchange:

Some astonishing things in the way of cheap frames are to be seen in Birmingham. The designs and finish are very good in consideration of the prices quoted, but the less said about the building the better.

And then English trade papers continue to claim that all cheap bicycles offered for sale in that country come from abroad! Convinced out of their own mouth!

NO ONE CAN OFFER YOU A SUBSTITUTE

FOR THE

PERSONS SPECIAL



Simply because
there are
no substitutes.

It is in a class by itself.
There is first the Persons
and, a considerable way
behind, some other saddles
but none of the Persons
class.

Persons Mfg. Co.

C. A. PERSONS, PREST.,

WORCESTER, MASS.

RACING.

Ten thousand persons crowded Charles River Park, Boston, April 19, to witness the opening of the racing season. The leading event was a one hour motor paced race. Aided by accidents, Nat Butler won, with 35 miles 2 laps to his credit. Walthour was second and McLean third. The contest was a chapter of mishaps from start to finish, Butler and McConnell being the only men to go through without any trouble with their machines. At the start Walthour went out to the lead, but he had not gone over a mile when his machine commenced to skip. At seven miles his pacemaker changed to another machine, and Walthour lost five laps to Champion, who was then two laps ahead of the field. Champion had his share of hard luck, for after completing his twenty-first mile the rear tire on his tandem exploded and the chain on his relief tandem broke in starting, thus leaving him without pace. He kept on pluckily for four miles, but finally gave it up. This left McLean in the lead, and he was riding strongly, when at twenty-two miles the rear tire on his tandem also exploded, and his handle bar broke, throwing him off; he quickly remounted and continued behind a single. Walthour was making up lost ground fast, and at twenty-seven miles it was announced that he was leading; it was a surprise, therefore, when the scorers finally decided that Butler had won. Butler first, distance 35 miles 2 laps; Walthour second, 35 miles 1 lap; McLean third, 34 miles; McConnell fourth, 34 miles; Simar fifth, 33 miles 1 lap; Maya sixth, 32 miles 1 lap; Champion seventh, 23 miles 1 lap.

The five mile open amateur attracted 95 entries and was run in three trial heats. Ten men qualified in each. The final was won by C. M. Holbrook in 12:21, Sulkins second and Stoughton third. In the five mile motor paced match race, best two in three heats, Mettling defeated Osgood. Time, 8:57 each heat. The purse for the one hour motor paced race was \$1,000, of which \$400 goes to the winner, who also receives \$4 a day until he loses the Brassard to a challenger.

Kramer started the season's record cracking at Vailsburg on April 20. Before a crowd of 6,000 excited spectators he won the quarter mile flying start race in 28 2-5 seconds, the best previous world's record of 28 3-5 seconds having remained undisturbed since 1894; McFarland, Fenn and Collett finished as named. The five mile handicap furnished plenty of excitement, the scratch men overhauling the leaders at the second mile; from there on it was a series of sprints for lap prizes. Coming around the last time Kramer was in front. McFarland and Fenn both had good positions, and on the far turn Fenn let out a link and went to the front. Kramer, Collett and Rutz were next in line, with McFarland back in the bunch. Coming into the stretch it looked like a victory for Fenn, but McFarland, coming like a flash, nipped Fenn on the tape; time, 11:16.

In the final of the half mile amateur open Billington proved his superiority. The riders loafed the first time around, but at the bell there was a scramble to get in front. On the backstretch Billington went to the front and won easily in 1:21. Fifteen riders qualified in the trial handicap, at one mile, which was divided into three heats. Billington was on scratch, and Lafforgue and Morrison were the limit men, at 160 yards. It was too much of a lead for the back markers, and they gave up the effort early in the game. Morrison was never headed, and in the scramble for home he finished two lengths to the good; Folger second, Beyerman third and Courter fourth; time, 2:06 2-5.

Jacquelin had a great victory in the Easter Grand Prize in Paris. The heats had been run off previously, leaving Jacquelin, Ellegaard and Heller to contest the final, which consisted of three matches. All three resulted in victories for Jacquelin, Ellegaard being second and Heller third in each. In the third match Jacquelin slipped and fell in the second lap, and the other two dismounted, the race being restarted, with the result stated.

Moran was defeated by Walthour at the Coliseum, Atlanta, April 17, in two successive five mile heats of a motor paced race. Walthour won the first heat in the fast time of 7:43 4-5, finishing four laps ahead of Moran. In the second Walthour was two laps to the good; time, 8:01. In the one mile professional Leander was first, Hunter second and Rutz third.

An unusually rich prize list is hung up for the annual hundred mile road race of the American Century Wheelmen, of Chicago, on Decoration Day. Two chainlesses and a chain wheel comprise the time prizes, and a motor bicycle, a chainless and two other bicycles the chief position prizes. In addition there will be something for every contestant who finishes the hundred miles inside ten hours.

The National Cycling Association was last week incorporated under the New Jersey laws. The incorporators are C. B. Bloemcke, Newark; C. R. Klosterman, Baltimore; A. G. Batchelder, New York; Patrick T. Powers and George Flaack, Jersey City. The objects are to promote racing and detect, prevent and punish frauds in that connection.

For the first time, the Intercollegiate Bicycle Racing Association will hold its annual meet at Vailsburg on either May 17 or 31; the destruction of Berkeley Oval renders it necessary for the collegians to go outside New York.

In a five mile mixed race of motor bicycles and motor tricycles held in England on March 31 a poor showing was made, owing to faulty handicapping. The time was 9m. 12-5s.

THE RETAIL RECORD.

Pittsburg, Pa.—Jackson Cycle Co., fire loss \$1,000.
 Waterbury, Vt.—W. H. Trowbridge purchased building and will move.
 Cambridge, Mass.—J. W. Barry opened shop in Clark Block.
 Lincoln, Me.—George Haskell opened store in Clay Building.
 Jersey Shore, Pa.—Jersey Shore Cycle Co. moved to new building on Allegheny street.
 Birmingham, Ala.—Alabama Bicycle Co., slight fire damage.
 Cedarhurst, N. Y.—Floyd Gaunt opened store on Central avenue.
 Montreal, Que.—Dominion Sporting Goods Co. succeed Mountain City Cycle Co.
 Lestershire, N. Y.—G. Pipler opened store on Main street.
 Jamaica Plain, Mass.—C. A. Underwood opened store at 654 Centre street.
 Niagara Falls, N. Y.—W. H. Davy moved to Welch Block, on Third street.
 Poultney, Vt.—Frank Jones opened shop.
 Bennington, Vt.—Bennington Bicycle Co. opened store on West Main street.
 Owosso, Mich.—Harrison Marshall purchased building at corner of Shiawassee avenue and Mack street, and will open store.
 Toledo, O.—Delbert Deveau succeeds J. J. Deveau.
 Urbana, O.—George Bancroft opened shop in North Main street.
 Port Chester, N. Y.—George McKeever built new shop.
 South Deerfield, Mass.—James Slattery sold out.
 Fairfield, Mass.—Samuel Cowles opened store in Main street.
 Granby, Conn.—Newton Simonsen succeeds Loomis Brothers.
 Woonsocket, R. I.—Charles A. Proulx opened store at 129 Main street.
 Freeland, Pa.—Simon Miller opened shop in South Centre street.
 Norfolk, Va.—Fishback & Moulton opened store at corner of City Hall and Monticello avenues.
 Peterborough, Ont.—T. J. Parker opened store at corner of Hunter and Queen streets.
 Charlottetown, P. E. I.—Adolph Gaudet opened store in Queen street.
 Great Barrington, Mass.—Brusie & Barnes opened store.

Moderation as to Handle Bars.

In some rather odd way it has come about that both the extremely low dropped handle bar and the high upturned one have ceased to be fashionable. Riders of to-day run in the direction of moderation in handle bar practice, whether from experience with the discarded sorts or because of indifference to the subject it is not easy to say. The present practice is a commendable one in some respects, but it is too much to hope that it will continue for any great length of time. Indeed, it would not be far wrong to regard the change as a good indication. It would show that riders were taking an interest in such things, and that is something they have not done to any great extent of late years.

WHAT ELWELL FEARS

**And Why he Would Have Motor Bicycles
Flakers Hurry Things.**

It is an undisputed fact that a demand will always be supplied, provided the demanders are willing to make it worth the while for those furnishing the article. Oftener than not the manufacturer not only has to design and turn out his wares, but also create the demand for them.

In the case of the motorcycle the demand already exists, and if the public were but fully alive to the fact that the bicycle that goes by a twist of the wrist and a little gasoline had arrived in good, practical shape, ready and willing to take its owner over the road at the rate of twenty miles an hour, the factories would be flooded with orders. Perhaps they are even now, but nevertheless the cycling world is, on the whole, hanging back and doubting the news as something too good to be true, while the general public know nothing at all about it. Eventually the fact will be forced upon them by the gradually increasing appearance of the motorcycle on the highways, and this ocular demonstration will lead to steadily increasing orders until advertising to excite interest and invite investigation will be unnecessary. Yet when it arrives that will be the very time when each individual manufacturer will advertise most extensively—he sees that the boom is on and becomes eager for as large a share of the business as possible. In a way this is commendable and to be expected, but those who have had the courage to advertise well and wisely from the beginning deserve, and will receive, the benefit of the first impetus.

The evil to be feared, and guarded against if possible, is the rushing in of unscrupulous manufacturers who will flood the market with cheap machines, cutting prices, injuring the business and sport, and robbing the conscientious pioneers of the cream of their legitimate profit. To prevent this there should be a strong effort made by the present makers and riders to get the motorcycle before the public as soon, and in as near a state of perfection, as possible. There is even now a small army of motocyclists who if approached on the subject wax enthusiastic over the delights of the sport and eloquent on the advantages and disadvantages of the different types of motorcycles now in the field. The audience they reach in this way, however, is very small; but if these discussions and opinions, within reasonable limits, were put into print, it would stimulate public interest to a marked degree. Clubs must be formed, and riders thus brought into closer contact with each other.

This accomplishes three desirable results: it impresses the public and creates interest, it leads to comparison of the merits and demerits of the various makes, thus stimulating the skill of the manufacturers to pro-

duce the best motorcycle possible, and it vastly increases the pleasure of the sport—at least to the average man, who enjoys companionship and to whom a pleasure shared is a pleasure doubled. There are many bicycle clubs now lying dormant which should revive on the advent of the motorcycle, which I look upon as the coming motor driven vehicle of the masses, and predict will—for far better reasons than the lowness of its initial cost—outnumber all others ten to one.

I am an enthusiastic cyclist of twenty years' riding, and although my opportunities for noting the growth of automobiles and motorcycles have been better than most (each year for the past ten years I have watched their growth in France, which country can justly claim to lead the motor world), I could not believe that a motor driven bicycle worth the riding would ever come to pass, and it was only the constant support and advocacy of such a bicycle by the *Bicycling World* that forced me to a careful investigation.



NEW YORK BRANCH: 214-216 WEST 47TH STREET

The result has been far beyond my expectations.

My conversion, however, would have been sooner had there appeared communications from actual riders. The *Bicycling World* merits the support of every motocyclist; every motorcycle manufacturer should be represented in its advertising columns, and its editors should be aided in making its pages interesting by riders who have something worth saying and the ability to say it. It is a pleasant and easy thing to tell others how to conduct their business and to urge the necessity of spending freely in order to push their wares into public view, and I shall allow them to be the best judge of this matter; but I hope that a good business the coming summer will encourage the makers of motorcycles to produce the best bicycle they know how to build, and to advertise the fact in the most attractive manner.

F. A. ELWELL.

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

WHEN INTEREST REVIVES

How it Brings With It False Ideas Regarding the Prices of Bicycles.

"When I look at all these riders going by, apparently enjoying themselves to the uttermost and the picture of content, I think I'll have to take up the pastime again myself," remarked a prominent business man to the *Bicycling World* representative recently.

"It's a foregone conclusion that I must have more exercise," he went on. "I work hard all day, most of the time being in the office or on the elevated or surface cars. When night comes I am worn out mentally, and not much better physically; but for all that I have to get in a car again and take the best part of an hour to get home. Once there I rarely stir out of the house. The consequence is that I have grown stout and my digestion is poor. The liking for my work has almost disappeared; I can't attack it with the vim I used to.

"It has occurred to me that a bicycle would give me just the exercise I need so much. I used to ride—not very much, but for exercise—and to take little pleasure jaunts occasionally. And it did me lots of good.

"Now, why shouldn't it be just as beneficial now? I could ride to and from the office, and thus get my exercise regularly. It would make a six or seven mile ride morning and evening, and as the roads are good—nearly all asphalt—it would not be too much work. I would have to start in early, of course, so as to be in condition by the time the warm weather set in.

"But if I do this I shall have to buy a new wheel. And that will mean, I am afraid, a second one for my wife. She is sure to get the fever if I do.

"There's an old machine of mine up in the attic that might be made to do"—this reflectively. "It's in good order, except possibly the tires, which may need renewing. The bearings and the frame and the chain are all right, I'm sure. The last time I had it out, which was five or six years ago, there was nothing wrong with it, I'm sure.

"But it is pretty heavy, I remember, and I suppose it would be hard work pushing it. So there is nothing for it, if I'm going to ride again, but to buy a new machine.

"But they are cheap enough now, in all conscience. I suppose I could buy the best machine in the market for about \$25. No? It would cost more?"

The *Bicycling World* man told him that he could pay as much as \$80 if he were determined to get the very top notch of bicycle construction.

"You don't say! I had no idea bicycles still brought so much. But a plain machine would do me, for I can't tell, you know, whether I shall like it or not. However, it's worth a trial, if only for the good it will do me."

The Week's Patents.

697,435. Bicycle Fork. Nils Berglund, Fitchburg, Mass., assignor to Mary Elizabeth Johnson, Fitchburg, Mass., executrix of Iver Johnson, deceased. Filed Nov. 9, 1898. Serial No. 695,949. (No model.)

Claim.—The combination in a bicycle fork, of an arched crownpiece provided with a vertical, tubular boss at its central section and having reduced shanks at its ends, tubular sides having their upper ends inclosing and brazed to said shanks, an arched brace having a central hole and having its ends curved to fit the tubular sides and being brazed thereto opposite said shanks, and a tube brazed to the interior of said tubular boss and having its lower end entering the hole and brazed to said arched brace, substantially as described.

697,564. Pneumatic Tire. Charles E. Thomas, Tucson, Ariz. Filed Sept. 23, 1901. Serial No. 76,231. (No model.)

Claim.—1. A tire embodying a series of tubes, each with a valve, and a pouch common to all of said valves and tubes, said pouch inclosing the ends of the tubes, and inclosed by the tire.

697,621. Pneumatic Vehicle Tire. Edgeworth Greene, Montclair, N. J., assignor, by mesne assignments, to the American Rubber Works Co., a corporation of New Jersey. Filed Jan. 4, 1902. Serial No. 88,371. (No model.)

Claim.—1. A pneumatic rubber tire provided with lateral thrust-weight carrying ribs, projecting from its sides, said ribs being located in a position to carry a part of the load and to receive the lateral thrust of the tire directly under the edges of the wheel rim, leaving a non-contacting space, between the upper side of the said rib and the top centre of the tire substantially as described.

697,643. Portable Bicycle Track. George E. Mitchell, Chicago, Ill., and William Link, New York, N. Y. Filed Nov. 8, 1901. Serial No. 81,539. (No model.)

Claim.—In a portable bicycle track, the combination with upper and lower rings, the lower ring being of less diameter than the upper ring, of converging separated track slats connecting said rings and angular supports having their vertical and horizontal

portions connected respectively with the upper and lower rings, substantially as specified.

697,675. Bicycle Driving Gear. Arthur M. Shauck, Gallion, Ohio. Filed Dec. 6, 1901. Serial No. 84,961. (No model.)

Claim.—1. In a bicycle or like machine, and in combination with the drive wheel and crank axle, a drive shaft for transmitting motion from the crank axle to the drive shaft, the same composed of sections arranged out of line, and speed gearing connecting the proximal ends of the drive shaft sections, substantially as set forth.

697,691. Cushion Tire. William H. St. John, Brooklyn, N. Y. Filed Oct. 7, 1901. Serial No. 77,851. (No model.)

Claim.—As a new article of manufacture, a cushion tire comprising a base adapted to fit the rim of a wheel, a relatively narrow tread, and cushions joining the said base and tread at intervals, the said cushions being narrow at the top and broadening laterally downward to the width of the base, the said tread, cushions and base being constructed in one piece, substantially as described.

697,780. Pedal for Velocipedes. James H. Barry, London, England. Filed Oct. 5, 1901. Serial No. 77,714. (No model.)

Claim.—1. In a folding pedal, a crank arm having a slot in its outer end, a spindle having a head pivoted in said slot, a recess in said head and a movable part in said crank arm adapted to engage said recess; substantially as described.

697,944. Crank Shaft Bearing of Bicycles. Frederick I. Johnson, Fitchburg, Mass. Filed Jan. 24, 1900. Serial No. 2,607. (No model.)

Claim.—1. In a bicycle, the combination with the barrel of the crank bracket provided with a slot, of a sleeve adapted to receive the crank shaft, a pair of eccentric rings attached to the ends of said sleeve, a thick eccentric ring attached to the central section of said sleeve, said eccentric rings fitting the barrel of the crank bracket, a stud projecting radially from said central ring through the slot in said barrel and a clamping nut carried by said stud by which the sleeve is held from rotation in said barrel, substantially as described.

TRADEMARKS.

38,143. Vehicle Brakes. Franklin F. Weston, New York, N. Y. Filed Jan. 7, 1902.

Essential feature.—The word "Barwest." Used since July 1, 1901.

Advice Worth Repeating.

While it not unnaturally winds up with advice as to the best wheels to sell—which wheels any one may guess without fear of straining his think tank—the Stearns Bicycle Agency has issued "A General Talk to Agents" which is worth listening to, and to which other makers and dealers generally may well give respectful consideration. Devoid of its advertising features, the "talk" follows:

"A Revival of Interest.—It is becoming an everyday occurrence for agents to write us that more people are displaying interest in cycling in their localities than has been the case for the past three years. Our agents not only tell us that our wheels are well liked, and that they anticipate an excellent season, but add that many persons who were once ardent devotees of cycling, but who have of late years ridden but little or not at all, have expressed their intention of again taking up the wheel as a means of enjoyable and healthful exercise. Already talks of club runs and cycling parties to sea and river side, hill and dale, are heard.

"What Can You Do?—Every dealer in city and town, no matter how large or small his community may be, nor how large or small his trade in bicycles may be, should do his share to make the realization of this revival in interest complete. He should, first of all, ride a wheel himself. He should urge upon his clerks the necessity of doing the same. We are always pleased to make a special concession in price on a bicycle for such purposes. He should advocate bicycle clubs, club runs and unattached wheeling parties. He should in every way bring to the attention of the general public the manifold benefits of cycling—the grandest of all out-of-door recreations. He should, in co-operation with the other dealers of the locality, enlist the services of the best newspapers for the dissemination of good, readable cycling news. Any newspaper will be glad to help in this, and can lend much aid to the sport. A series of well worded advertisements (copy changed each insertion) would pay well if placed in the proper mediums, and will be appreciated by the papers in return for services rendered in their editorial and reading columns. 'Keeping everlastingly at it brings success.'"



PRICE, \$200.

The De Long Motorcycle

IS NOT A

LUMBER WAGON

BUT AN

Up-to-Date Motorcycle.

*If you have not applied for the agency,
DO IT NOW.*

INDUSTRIAL MACHINE CO., Phoenix, N. Y.

50,000 PAIRS TIRES

READY FOR DELIVERY

AT

\$1.50

\$1.75

\$2.00

Order your tires where
you can get deliveries
and right prices.

EYE-OPENING PRICES ON SUNDRIES

will be mailed to Dealers sending
in their business card.

Write us for

PRICES
on

Marsh Motor Bicycles

WE ARE ESTABLISHING AGENCIES.

WILLIS
Park Row Bicycle Co.,

23 PARK ROW,

NEW YORK.

Importance of Store Illumination.

The fact that the Brilliant Gas Lamp Co., of Chicago, report that the spring trade on their Brilliant and Halo store lamps is fully up to their fall business is evidence that merchants are awakening not only to the value of the lamps themselves, but to the importance of store illumination.

It is a subject to which retailers are prone to give too little thought, although they themselves know how they are impressed by and attracted to the bright, well lighted, cheerful store. With such lamps as the Brilliant and the Halo, affording a flood of light at trifling cost, even in the smallest town, there is small excuse for a dark, dull store in any community. The salability of such lamps also makes them a desirable side line.

But all this aside, and without regard to any "puffing" of the Brilliant Co.'s goods, store illumination is no small item in the art of attracting customers, and is a matter which deserves the serious heed of all who are engaged in the retail trade.

Say How It's Shipped.

When you send an article by freight or express, and write a letter of advice or mail invoice, be very sure to indicate by what line the shipment was made, advises the Business World.

Don't carelessly write in the fact that it went by express; give the name of the express company. If by freight, state just what freight line was used.

If this were made a rule in every office there would be much time and temper saved which now are expended over the wires in an impatient effort to discover the information which should have gone along in advance of the goods.

At the moment of dictating a letter of advice it may not be possible to know the name of the forwarding line; but in such case a blank could be left to be filled in before the letter goes out of the office.

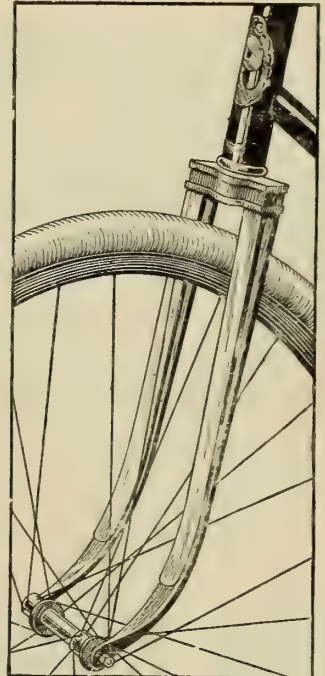
Beauty Spots in New England.

At this season of the year many people are making plans for their summer vacation. Some will return to their old haunts, while others will seek new resorts.

For scenic beauty Northern New England has no equal, and one unacquainted with this section in detail will gain much information as to the topography and beautiful views obtained from various points by a perusal of the numerous pictures published by the Boston & Maine Railroad. They are issued in five portfolios, made up wholly of halftone reproductions of suitable size to show up the scenery to proper advantage. Each book contains thirty or more scenes, and cover mountains, seashore, lakes, rivers and historic spots, and are mailed upon receipt of six cents for each book. A catalogue of descriptive literature covering the various sections of New England will be mailed free by the Passenger Department, Boston & Maine Railroad, Boston.

**Luxury
of Cycling
made real !**

**PIERCE
CYCLES**



The Spring Fork is formed of two leaves of spring steel, which compose the fork sides. In conjunction with the Cushion Frame a bicycle is produced for the masses which is the equal of the coaches of the classes.

SEND FOR CATALOGUE OF 1902 MODELS.

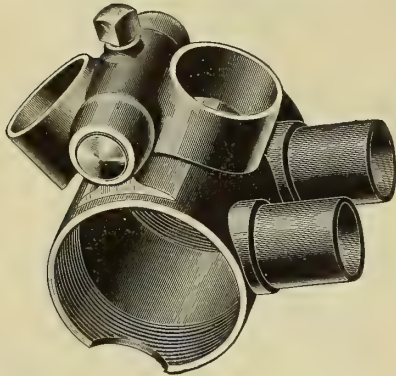


The George N. Pierce Co.

BUFFALO, NEW YORK, DENVER, SAN JOSE.

Fauber Hinge Bracket

*for Cushion and Spring
Frame Bicycles.*

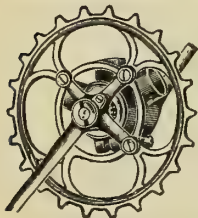


The hinge parts are made of forgings.
Bearing points are wide apart lessening chance for
lost motion.

The hinge pin is a hardened and ground taper pin.
Bracket for 1 1/8 in. and 1 in. tubing fitted to all
styles

FAUBER HANGERS

FAUBER MFG. CO., - Elgin, Ill.



"D. & J." HANGERS



FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

AND
The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY
THE NATIONAL CEMENT & RUBBER MFG. COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprocket.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

A Complete Bicycle Repair Business, for sale
cheap. GEO. W. YAW, Dowagiac, Mich.

FOR SALE—Motor Cycle \$50.00. Write for
particulars. H. S. THURBER, Marshalltown,
Iowa.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

Upon receipt of 40 cents in stamps, we will mail one
dozen of the MAGIC as a sample trial to any part of
U. S. A. Ask your jobber for it.



HAS A POINT ONLY 1/16 IN. DIAMETER.

Bicycle salesmen wanted to handle the MAGIC as a
side line.

THE MAGIC REPAIR TUBE CO., 248 LARRABEE ST., CHICAGO, ILL.

French Knit Racing Suits.

WE ARE SOLE MANUFACTURERS.

DEALERS WRITE FOR PRICES.

H. J. KOEHLER SPORTING GOODS CO.,

845 Broad Street, NEWARK, N. J.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

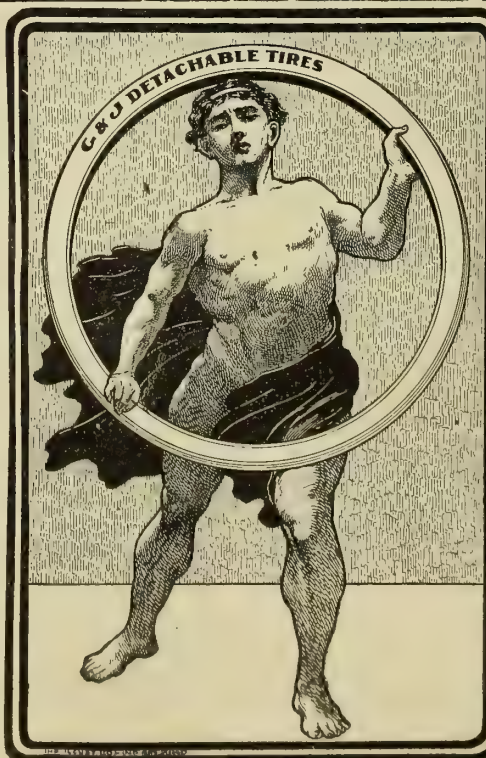
Sheet Metal Stamping.

THE ARMSTRONG "A" CRANK HANGER



is conceded by competent judges to be the
most perfect in point of design, mechanical
construction, finish and materials used,
that it is possible to produce. Made in
one grade only, the highest. Handsome
in appearance; simple in construction; easy
and positive adjustment. We make the
most complete line of bicycle frame fittings
and crank hangers on the market.
Our 1902 prices are low. Write for them.

ARMSTRONG BROS. TOOL CO., Chicago.



G & J TIRES

EMBODY
ALL ESSENTIALS
OF

PERFECTION

*Strength,
Durability,
Speed,
Ease of Repair*

1902 CATALOGUES NOW READY

G & J TIRE CO.

INDIANAPOLIS - IND.

MAKERS OF

G & J DETACHABLE TIRES
FOR ALL CLASSES OF VEHICLES

WYOMA Coaster Brakes.

UNIVERSAL AND DETACHABLE.

We control following patents:

June 12, Aug. 14, Dec. 25, 1900,

Feb. 19, March 26, April 1, 1901,

covering all features of construction of these brakes. We also control trade-mark "E. Z" and will manufacture all brakes so stamped.

See issue of January 1st for description and watch our Ad.

Reading Automobile & Gear Co.,

Tenth and Exeter Sts., READING, PA.

"PERFECT"



OILER.

For High Grade Bicycles. The best and neatest Oiler in the market. DOES NOT LEAK. The "PERFECT" is the only Oiler that regulates the supply of oil to a drop. It is absolutely unequaled. Price, 25 cents each.

We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK

DIAMOND TIRES FOR

Carriages, Automobiles and Bicycles.

Made in AKRON, OHIO, by

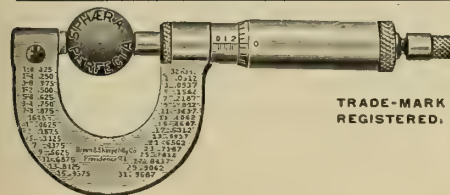
THE DIAMOND RUBBER COMPANY

Bicycle Parts and Tubing

WRITE US FOR PRICES.

THE STANDARD WELDING Co.

CLEVELAND, OHIO



TRADE-MARK
REGISTERED.

STEEL BALLS

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

The Week's Exports.

Great Britain, with purchases amounting to \$22,000, topped last week's manifest. France with \$15,000, Australia \$8,000, Germany \$7,300, Holland \$4,700, Africa \$3,900 and New Zealand \$3,360 made up the bulk of the exports. The appearance of Persia in the list is in the nature of an unusual feature. The record in detail follows:

Antwerp—17 cases bicycle material, \$772.

Amsterdam—182 cases bicycles, \$2,745; 33 cases bicycle material, \$985.

Arnheim—37 cases bicycles, \$555.

Azores—2 cases bicycles and material, \$19.

British East Indies—46 cases bicycle material, \$945.

Brazil—4 cases bicycle material, \$293.

British Possessions in Africa—36 cases bicycles and material, \$3,929.

British Australia—314 cases bicycles and material, \$8,219.

British West Indies—104 cases bicycles and material, \$2,172.

Bremen—3 cases bicycles, \$125.

Cuba—2 cases bicycles, \$38.

Copenhagen—1 case bicycles, \$20.

Central America—4 cases bicycle material, \$166.

Dutch Guiana—14 cases bicycle material, \$423.

Egypt—10 cases bicycles and material, \$420.

Genoa—10 cases bicycles, \$150; 26 cases bicycle material, \$2,343.

Hamburg—257 cases bicycles, \$5,245; 31 cases bicycle material, \$1,342.

Havre—497 cases bicycles, \$8,115; 112 cases bicycle material, \$7,020.

Liege—2 cases bicycle material, \$95.

London—8 cases bicycles, \$200; 207 cases bicycle material, \$18,117.

Liverpool—38 cases bicycles, \$940; 15 cases bicycle material, \$419.

Malta—1 case bicycles, \$30.

New Zealand—34 cases bicycles and material, \$3,360.

Persia—3 cases bicycles and parts, \$60.

Rotterdam—21 cases bicycles, \$898; 20 cases bicycle material, \$65.

St. Petersburg—1 case bicycle material, \$30.

San Domingo—2 cases bicycles and material, \$46.

Southampton—52 cases bicycles and material, \$2,560.

Uruguay—4 cases bicycle material, \$96.

U. S. of Colombia—2 cases bicycle material, \$20.

THE CUSHION FRAME

is in itself

a

GUARANTEE OF QUALITY

It was never associated
with "cheapness."

We permit it to be ap-
plied to high-grade
bicycles only.

That's another point that
should appeal to both
dealers and riders.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

WE BOUGHT THE WHOLE BUSINESS,

13,300 Pairs ...of... New Brunswick Tires

WHEN THE FACTORY WAS DISCONTINUED.

They are Money-Makers. They are selling fast.
You should get in touch with us quick.

Write us about our \$15.00 BICYCLE.

BOSTON CYCLE & SUNDRY COMPANY,

J. M. LINSKOTT, Manager.

7 Hanover Street, BOSTON, MASS.

HAVE YOUR BICYCLE EQUIPED WITH A

NEW DEPARTURE COASTER BRAKE

SOLD EVERYWHERE BY EVERY BODY

MANUFACTURED BY
THE NEW DEPARTURE BELL CO.
BRISTOL, CONN. U.S.A.

SELLING AGENTS
JOHN H. GRAHAM & CO.
NEW YORK CITY.

SOLAR LAMPS

ALWAYS SATISFY.
Badger Brass Mfg. Co., Kenosha Wis.

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of everything. Call on any agent for tickets or address

461 Broadway - New York 435 Vine St., - Cincinnati
801 Ches't St., Philadelphia 507 Smith'ld St., Pittsburg
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.

All American wheelmen who desire to keep themselves posted upon matters concerning the cycle in Europe, its trade, mechanics, and sport, should subscribe to

THE CYCLIST

AND BICYCLING AND TRICYCLING TRADES REVIEW.

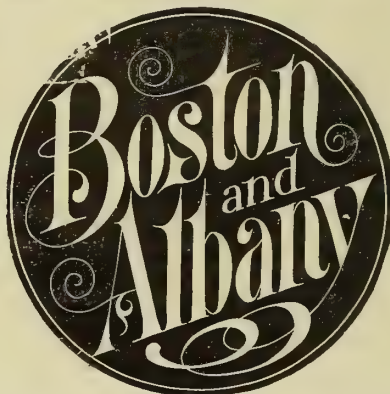
The only recognized authority of English trade and manufacture. Sent post free to any part of America for one year, \$3.25. American manufacturers having novelties in machines or sundries to introduce should advertise in

THE CYCLIST.

Terms on application to

ILIPPE SONS & STURMEY, Ltd.,
19 Hertford Street, Coventry, England.

Members of the American Trade visiting England are invited to call at THE CYCLIST Office at Coventry or at 3 St. Bride Street, Ludgate Circus London, E. C.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	8.25 "
" Detroit		4.00 P.M.
" Chicago	11.50 "	

"Chicago Special" has through Buffet Library Smoking Car and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from St. Thomas to Chicago. Both trains run daily and are made up of the most modern and luxurious vestibuled Sleeping Cars.

For other service west, time tables, reservation, etc., address
A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage Them"

is the very book you need.

Every page teaches a lesson. Every illustration
"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.

If You are Interested in Automobiles, THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday
at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis



Via Rockford, Freeport, Dubuque, Independence, Waterloo, Webster City, Fort Dodge, Rockwell City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars, free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R.R.

LOWEST RATES FAST TRAIN SERVICE

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, May 1, 1902

No. 5

POPE GETS MAJORITY

Interests With Which he is Identified Finally Obtains Control of A. B. C.—No Changes Likely Until October.

It is now possible to state authoritatively that the majority of the stock of the American Bicycle Co. has passed to and is in the possession of interests representing Col. Albert A. Pope.

The unwonted activity of A. B. C. securities in Wall Street during the past six weeks has been plain indication that there was "something doing," and while insiders were well aware of the trend of affairs, matters were too unripe to warrant publicity. An inkling of what was in progress leaked out in the published statement that Col. Pope was endeavoring to repurchase the Columbia factory at Hartford, but at the time it was known that the Colonel was after bigger game. Indeed, it has been common gossip that he has been bent on obtaining control of the company for nearly two years.

After the annual meeting of the A. B. C. last October it was reported that Col. Pope then possessed in his own name 23 per cent of the securities, and as some 150,000 shares have changed hands during the past six weeks and are known to have been purchased by the Pope interests, to say nothing of purchases of at least two considerable blocks at private sale, that the Pope majority is now a substantial one is beyond doubt.

It is also known that three of the most prominent directors of the company, and in all probability more of them, have taken advantage of the strong market and unloaded practically all of their holdings; they have retained merely a nominal number of shares.

That the change of affairs will cause any immediate disturbance in the affairs or the management of the A. B. C. or its subsidiary companies is, however, wholly unlikely. Until the annual meeting in October next practically nothing can be done by the majority interests.

Col. Pope is denying himself to callers and

for the time being at least will give expression to no opinion.

During the thirty days ending with April 29 a total of 148,580 shares of A. B. C. securities changed hands. Of the number 97,855 were common and 50,725 preferred. During last week 19,600 shares of the former and 11,400 of the latter were traded in at prices ranging from $6\frac{7}{8}$ @ $8\frac{1}{2}$ and 25 @ $26\frac{1}{2}$, respectively.

The total issue of A. B. C. shares was 177,015 of common and 92,949 preferred.

Universal Repudiates Houk's Yarn.

George W. Houk's story of a mysterious pool of American coaster brake interests, which came across the sea, seems to have no starch left in it.

"We never met Mr. Houk, do not know the gentleman and know nothing of any meeting of big financiers that he was present at or at which any coaster brake manufacturers were present," says J. C. Conway, treasurer of the Universal Coaster Brake Co., of Buffalo. "If there is a plan on foot among financiers to pool the coaster brake business we do not know it, and should we be invited in, we would decline. Our business is and is going to be very profitable as it is being run at present, and furthermore we do not believe in combines, anyway."

Mr. Conway's reply leaves but two coaster brake manufacturers of any prominence to be heard from, and with the other emphatic denials, makes it reasonably certain that Houk invented and circulated the yarn for purposes of his own.

International Suit Postponed.

The \$200,000 suit of Brown Brothers & Co., Limited, of London, Eng., against George J. Capewell and others, of Hartford, Conn., which was to have come up for trial before the United States Court at New Haven on Tuesday, has been continued for a week. The suit involves the alleged failure of a number of spoke making machines to perform their functions.

Budds Nipped by Fire.

The Budd Bros. Mfg. Co., Glens Falls, N. Y., who do a considerable assembling business, were practically wiped out by fire on Sunday last. Loss not stated.

COLEMAN WILL RETIRE

Makes Formal Announcement That he Will not Again Serve as President of A. B. C.—Has it Spread on the Minutes.

R. L. Coleman is serving his last term as president of the American Bicycle Co.

He has other interests which require his attention, and after his term of office expires, in October next, it is his intention to devote himself to them.

Although he made announcement to this effect at the last meeting of the board of directors, the news has just become public property.

Mr. Coleman, it is understood, not only gave notice of his purpose to retire, but added that he would not accept re-election under any circumstances, and caused his announcement to be recorded in the minutes of the meeting.

To Cinch the Coaster.

Frank Riggs, of the Riggs-Spencer Co., is now on the Pacific Coast "endeavoring to Cinch that part of the country," as one man expressed it.

"Things certainly seem to be booming, in New England particularly," said Riggs to a Bicycling World man shortly before he left. "We are getting more coaster-brake business than we can well handle, and altogether are feeling pretty comfortable."

Hubbell and Southard going Abroad.

E. P. Hubbell and F. E. Southard, the respective heads of the National Cement and Rubber Co. and the Toledo Metal Wheel Co., both of Toledo, O., are booked to sail for Europe on the 18th inst. Both are, of course, on business intent.

Wyeth Increases Capital.

The capital stock of the Wyeth Hardware and Manufacturing Co., St. Joseph, Mo., has been increased from \$300,000 to \$500,000. The certificate of increase shows the assets of the company to be \$380,000 and the liabilities \$80,000.

MARCH MARRED RECORD

First Break in Export Increase—Big Gains Offset by Bigger Losses.

Despite gains of nearly \$36,000 in the United Kingdom and \$76,000 in Continental Europe, the cycle exportation during March unexpectedly fell some \$34,000 below the total for the corresponding month of the previous year.

France and British North America were the countries to offset the gains, France's purchases falling off to the value of \$31,000, and Canada and beyond some \$35,000 worth. Japan, from which much was expected this year, appears unaccountably backward, and again fell away, as was the case with Australia also. The Philippines likewise were in the offside column, but as the islands gorged themselves last season little is now to be expected from that direction.

Of the minor increases those in Africa and the West Indies were the most substantial.

While the month proved an adverse one, the total for the nine months of the fiscal year ending with March is still well to the good, as the following detailed summary attests:

Exported to—	—March—		Nine months ending March—		
	1901. Values.	1902. Values.	1900. Values.	1901. Values.	1902. Values.
United Kingdom.....	\$87,870	\$52,029	\$294,048	\$253,514	\$300,152
France	40,069	9,360	180,332	96,801	155,621
Germany	28,824	29,409	322,959	113,952	230,508
Other Europe.....	61,253	136,225	515,139	303,578	432,941
British North America.....	57,691	23,519	205,308	173,725	98,476
Central American States and British Honduras	516	261	2,335	4,016	3,830
Mexico	1,415	1,924	19,208	14,569	15,594
Santo Domingo.....	26	.....	237	337	717
Cuba	1,161	1,042	137,804	11,447	12,928
Porto Rico*.....	.....	.....	1,969	.....	.....
Other West Indies and Bermuda.....	5,346	6,647	39,251	37,921	35,616
Argentina	78	185	135,940	23,341	7,865
Brazil	841	517	23,141	8,454	4,087
Colombia	79	234	5,950	399	916
Other South America.....	3,138	3,253	54,777	23,414	19,256
Chinese Empire.....	1,472	1,634	22,957	10,802	48,244
British East Indies.....	5,954	4,840	92,060	41,255	36,345
Hongkong	122	528	6,075	7,349	3,554
Japan	15,126	10,262	175,392	154,716	121,361
British Australasia.....	21,345	14,320	175,489	156,332	150,995
Hawaii* .....	.....	.....	38,880	.....	.....
Philippine Islands.....	5,996	1,964	14,773	62,175	15,026
Other Asia and Oceania.....	85	3,927	36,899	18,978	21,299
Africa	4,083	6,252	50,020	79,137	82,026
Other countries.....	79	.....	89	219	117
Total	\$342,569	\$308,332	\$2,551,032	\$1,596,431	\$1,797,474

*No longer included in statistics.

The Cinch's Conceit.

Quite the cleverest advertising conceit which has made its appearance in some time has just been issued by the Riggs-Spencer Co., of Syracuse. It takes the form of a little folder which is closed envelopelike, the flaps being held together by a red seal stamped with the one word "Cinched," in which the conceit lies. The reading matter is issued "with apologies to all competitors," and comprises a clever play on the names of the several prominent coaster-brakes, the Cinch, of course, among them.

Where High Grades Rule.

Up Waltham way there has been no let-up in the bustle and renewed vigor that has marked the Waltham Manufacturing Co. since L. B. Gaylor took over the management; the factory is still working overtime, and at that the chief demand is for the \$50 Orient.

"For the first time we this year brought out a \$30 and a \$40 model," said Mr. Gaylor in remarking the fact, "believing that there was a large call for cheaper bicycles; but I must confess that the result has amazed me. The demand is overwhelmingly for the \$50 Orient, the highest priced model we make."

While he said nothing about it, the result must be gratifying to Gaylor. He was ever wedded to the "high grade only" standard.

One man and his impulse.

The effort to get motor bicycles without paying for them goes merrily on. Big men and little men alike appear fired by the "ambition," and usually they show no favoritism. They try to "work" all motor bicycle manufacturers without regard to the other. One of the "big" men—one who has a national reputation in his particular business—has recently made his "play." He employs

BLOCKS THE CROOKS

New Law That Make Serruptitious "Sales" and "Transfers" Impossible.

In New York State at least it will not be so easy as it once was for the fly-by-nights of the commercial world to transfer their possessions to wives or mothers or to otherwise dispose of their stocks in trade between sunsets and sunrises. This is made certain by the Senate bill (No. 818) which passed the recent session of the Legislature of the State, and which was promptly signed by the Governor. The act was designed to check the rascality practised by dishonest men to make a fortune.

The practice that it is designed to prevent has not been confined to any particular branch of business. The honest man need have no fear if obliged to sell out his business in having his creditors know the fact, but the fraudulent dealer will by this bill be obliged to show his hand, and the fraudulent buyer will take a great risk in making his purchases without notifying the creditors of the seller.

The attention given this matter and its introduction are understood to be due to the New York Credit Men's Association. The following is the text of the bill:

An act to regulate the sale of merchandise in bulk.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. A sale of any portion of a stock of merchandise other than in the ordinary course of trade in the regular and usual prosecution of the seller's business, or the sale of an entire stock of merchandise in bulk, shall be fraudulent and void as against the creditors of the seller unless the seller and purchaser shall at least five days before the sale make a full and detailed inventory showing the quantity and, so far as possible with the exercise of reasonable diligence, the cost price to the seller of each article to be included in the sale, and unless such purchaser shall at least five days before the sale in good faith make full explicit inquiry of the seller as to the name and place of residence or place of business of each and every creditor of the seller and the amount owing each creditor, and unless the purchaser shall at least five days before the sale in good faith notify or cause to be notified personally or by registered mail each of the seller's creditors of whom the purchaser has knowledge, or can with the exercise of reasonable diligence acquire knowledge, of such proposed sale and of the stated cost price of merchandise to be sold and of the price proposed to be paid therefor by the purchaser.

Sec. 2. That, except as provided in the preceding section, nothing therein contained, nor any act thereunder, shall change or affect the present rules of evidence or the present presumptions of law.

Sec. 3. This act shall take effect immediately.

this sugar-coated language in the effort to obtain his end:

"For a week or three I have been fighting off the impulse to own and operate one of your little gasoline locomotives and have decided that the only way to rid myself of it is to write you and have you refuse the proposition I now make you."

Then follows a suggestion that the manufacturer give "the man with the impulse" a motor bicycle, for which the man will give something which, however, is not cold cash.

There are reasons for stating that the man now has neither "impulse" nor "one of the little gasoline locomotives."

LEAR'S BUCKEYE

Ohio Veteran Begins Motor Bicycle Manufacture—Machine is Featureful.

Oscar S. Lear, the veteran and wide-awake dealer of Columbus, Ohio, who was one of the very first to take up motor bicycles, has finally embarked in their manufacture. He has formed a partnership with Frayer & Miller, of that city, and under the style the Buckeye Motor Co. they are equipping a plant to build the motor bicycle invented by those gentlemen, and which was referred to in the *Bicycling World* some months since.

As the accompanying illustration attests, the bicycle, which first made its appearance in the fall of 1900, is an uncommonly good looking, and the description makes it appear that it is possessed of features and originality that will cause the Buckeye to command attention.

It is claimed to be the only motor bicycle at the present time using the make and break or primary electrical sparking system in connection with a magneto in place of batteries. It is one of the few machines using the chain drive, the transmission being accomplished by means of a reduction gear inside the crank case. On the outer end of the gear is fastened the driving sprocket. The use of the reduction gear shortens the driving chain and keeps its speed to about that of the ordinary bicycle. The driving pinion is of a sleeve form on main shaft, and is driven by friction. The friction drive compensates any sudden or violent jerk that is possible in starting, and likewise eliminates any excessive chain strains, thus allowing the use of light and hardened chains.

The motor of this machine has a steel crank case which is brazed rigidly into the frame. The frame has a special tube parallel to the top bar and intersecting the lower tube at the head. The gasoline tank is securely strapped between this tube and the top bar. In the top side of the special tube are small holes which admit air for the motor and also vent the crank case. Lubricating oil is carried in the top tube, and fed into the crank case by means of a small tube falling directly on the crank pin. The cylinder is $3\frac{1}{4}$ bore by $3\frac{1}{4}$ stroke, and has a compression of 50 pounds per square inch. It is provided with radiating plates in such size and quantity that the cylinder walls have a temperature of about 300° under constant running. Both air and exhaust valves close downward, thus obviating the necessity of a heavy spring on the air valve to insure proper seating.

The igniter on the Buckeye is one of its most remarkable features. It is purely mechanical in its action, and positive. It will make any number of sparks per minute up to 2,000, and can readily be attached to any motor. In this machine the igniter is driven

by spiral gears, and the spark is advanced by means of advancing the pitch of the spiral. The magneto is also positive, and is driven by means of extension of the shaft which drives the igniter.

A small lever which advances the ignition is also attached to the exhaust valve. This lever is connected to a manipulating lever on the handle bar which has entire control of the machine. By pressing the one manipulating lever in one direction the machine is stopped, or in the other direction the speed is increased.

The gasoline feed is accomplished by a mechanical mixing valve of a split current and non-flooding type, and is purely auto-



matic for all speeds, temperatures and atmospheric conditions after it is once adjusted at the factory. The air enters the bottom of the valve by a pipe leading from the special frame tube. The air coming from the crank case as the piston moves downward necessarily carries a small quantity of lubricating oil vapor with it. This vapor is sufficient to keep valve stems, igniter points and piston well lubricated.

The front wheel has 36 spokes and a $\frac{3}{8}$ -inch axle. The rear wheel has 44 spokes and a $\frac{1}{2}$ -inch axle, and is equipped with a special coaster-brake.

Excelsior Incorporates.

The Excelsior Steel Ball Co., whose plant has been operated for some time at Tonawanda, N. Y., has taken out a certificate of incorporation for \$10,000. The directors are Richard N. Keil, of Buffalo, and May M. E. Jones and Nellie M. Jones, of Tonawanda.

Conditions in Oregon.

"Despite three or four months of horribly bad weather," writes Fred T. Merrill, from Portland, Ore., "there has been no let up in the bicycle business out here. We are averaging forty to sixty sales per day."

England's March was Favorable.

England cycle exports are maintaining their upward tendency with remarkable consistency. During March they attained a value of £57,282, as against £44,834 in March, 1901.

Brown Comes to Buy.

A. Brown, of the big house of Brown Bros., London, is now in this city. He has his eye open for any good things which the American cycle trade has to offer.

HOLLEY'S GUARANTEE

Full Text of the Bradford Concern's Satisfaction-or-Money-Returned Warranty.

The new catalogue of the Holley Motor Co. discloses for the first time the full text of the recently adopted Holley guarantee, which proves to be as follows:

"We give a personal guarantee to each and every purchaser of the Holley motor bicycle and agree to substantiate every claim we make. Our guarantee covers both the motor cycle as a whole and each and every part entering into its construction and equipment. We claim that the Holley will carry the rider a mile in less than two minutes, that it will ascend a 15 per cent grade at the rate of 7 miles an hour, carrying a rider weighing 175 pounds. If our motor bicycle fails to accomplish precisely what we claim for it, we will replace it with another or refund the purchase money, as desired. It is certain that there could be no stronger guarantee than this.

"We also guarantee to replace, free of charge, any part of the motor which may prove defective on account of poor material or workmanship. This does not include the replacing of parts broken by accident or carelessness or neglect of the rider. It means simply that if the motor cycle or any part should fail to be what we claim it to be we will make the discrepancy good or refund the purchaser's money.

"We also agree that the motor will always work perfectly, provided it is properly lubricated and our instructions are adhered to, and we guarantee it to be $2\frac{1}{4}$ actual brake horsepower.

"We guarantee our carburetter to satisfactorily perform the functions required of it and always give proper mixture to the motor, providing the gasoline used is not lower than 68 degrees test. This guarantee applies to the carburetter whether sold with the motor bicycle or separately.

"The spark coil and ignition plug are guaranteed to us by the manufacturers, and we will make good by replacement, free of charge, any defects in material or workmanship."

Cowan Elected President.

Following their election, the nine directors of the Los Angeles (Cal.) Cycle Board of Trade chose these officers for the ensuing year: W. K. Cowan, president; E. R. Braley, vice-president; A. B. Young, secretary; Phil Lyon, treasurer. Mr. Lyon was re-elected; the retiring president, vice-president and secretary were E. H. Crippen, W. H. Whitesell and Harry F. Burke, respectively.

While the prime object of the organization is price regulation, it has during the last year conducted the big annual Santa Monica road race and kept the Santa Monica cycle path in repair.

FEBRUARY 28, 1902.

NATIONAL CYCLE MFG. CO.,
BAY CITY, MICH.

GENTLEMEN:—Last May I bought from your local agents, Messrs. Chadwick & Morris, one of your chainless models with cushion frame and coaster brake attached.

After nearly a year's use it gives me great pleasure to tell you that the bicycle has given me complete satisfaction, and I believe that for ease in running and durability it cannot be excelled. I have ridden nearly all winter and have given the bicycle more severe usage this winter than months of use in the summer time. For about one month this winter I think my wheel was about the only one seen on the streets of Lockport, and during that time I have ridden the wheel over places that would put an ordinary wheel out of business. When you consider that I weigh nearly 200 pounds and that I rode over frozen roads and always at a fair rate of speed, you or anyone will agree that it was a good test of strength.

I have ridden bicycles for upwards of seventeen years and have owned or ridden nearly all of the leading makes, and can add nothing further in commendation of your wheel than to say that after the year's experience I have mentioned I am thoroughly satisfied with the National Bicycle.

Yours truly,

(Signed) AMOS H. GARDNER.

SATISFIED RIDERS ARE OUR BEST ADVERTISERS.



The High-Grade Tire.

Every live dealer knows it.

Every rider will want it.



ITS NAME—

F I S K

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00
Single Copies [Postage Paid] . . . 10 Cents
Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, MAY 1, 1902.

Exit, the Cheap Bicycle.

On several occasions during previous years it appeared that the market was to all intents and purposes clear of job lot bicycles. As often appearances proved deceptive.

From all accounts, however, all factories are now really barren of those out of date bicycles that have caused so much mischief in the past, and only new stock is obtainable and at prices that rule higher than have applied to cheap bicycles for at least two seasons past.

It follows that "\$40 bicycles at \$9.99" and "\$50 ones at \$13.22" should henceforth cease to cut much of a figure in the trade. The conscientiousless shysters and guerillas who have preyed on the public's weakness with contraptions of the sort are now at a distinct disadvantage, and it is for the legitimate trade to make the most of their discomfort.

It is no secret that the competition in job lot bicycles has been of razor edge keenness. The prices that have been quoted have been

low enough to "stagger humanity." It will serve no purpose to print the figures that are so ridiculous that the wonder has been that anything resembling a bicycle could be even glued together at such prices; indeed, the competition reached the stage where one or two makers threw up their hands, shut down their factories and held on to the stock they had accumulated. In another instance a manufacturer became so disgusted that he practically decided never again to produce a cheap bicycle.

The cleanup is now giving these makers their opportunity, and their temporary shut-downs have really served the trade a good turn and even given rise to symptoms of a shortage of low priced machines. It is now for them to hold the advantage gained.

The entire trade is glowing with health, and it is the individual's fault if he fails to share the effects.

There is room for low priced bicycles; there is none for the "cheap" bicycle, and unless some "loses his head" it may now be said to be no longer in the reckoning.

Something of a Novelty.

Inability to fill orders for bicycles is something that the trade has knowledge of merely as a matter of memory. There was a time when the trouble was to produce and not to sell sufficient goods; when orders couched in the most insinuating and even humble terms were haughtily declined. But the time when these things were has gone, and it is, as Mr. Kipling would say, another story.

Hence the present situation is looked upon almost as a new experience. In a number of lines retailers find difficulty in obtaining goods with the accustomed promptitude. In a few—a steadily increasing few—it is more than a difficulty; it is an outright impossibility.

It is not easy at this writing to say whether the matter will right itself or become still more wrong. Probably the outcome will be the former in a majority of cases and the latter in the others. Models which are unexpectedly popular, or of which but a small number have been put through the factory, are certain to be in the latter category. Not until the selling season is well over will there be much relief there.

It is interesting to note that the trouble referred to is not confined to this country.

In Great Britain and even on the Continent the same story is being told. There is no great rush of orders, sufficient to deplete factory stocks and start factories to work-

ing nights and overtime; rather is it a good, healthy trade that has kept things moving and caused certain patterns to be cleaned out.

It is matter for congratulation that there is not now, nor likely to be, the slightest sign of a boom.

That would be deplorable from every point of view.

Our Roads and Our Riders.

Inspired by the yarn spinning of George Houk, who recently visited this country and who returned to London with a panorama of weird impressions, to use a mild term, one of the English papers tells us that we are more to be pitied than censured. Accepting as truth Houk's statement that we are returning to heavy bicycles, with high frames and outside joints, the publication in question says:

"Our transatlantic cousins have gone through the light weight small frame phase, and what is the result? The return is being made this year to heavier machines and larger frames; and it must be remembered that Americans have not the same opportunities for putting a cycle to hard use that we have. Their only good roads are in, or close to, or between cities. The 'country' road as we know it does not exist. Moreover, the bad weather is sufficiently bad, coupled with the poor roads outside the towns, to put a stop to riding altogether from autumn to spring. The consequence is that American riders are, in a sense, park riders, so, if they have discovered the folly of using light weight machines, how much more important must the matter be to us who take our machines for long distances over main roads roughened by traffic, and who use them in all weathers?"

Of course, we have a superabundance of bad roads, but it is time that there was eradicated this "guff" which fills the foreign mind about our being "park riders" and about good roads existing only near our cities. There are very many sparsely settled sections of the country in which good roads exist.

It is true that during bad weather many of our dirt roads are uncyclable, but if it will help the case of our English cousins to any extent we may tell them that in a very large part of the United States not only the country roads, but the "park roads" are deserted by cyclists "from autumn until spring." It snows over here in that interim, and usually when there is no snow the mercury in the bulb is forever bobbing be-

tween the zero and the freezing marks; in addition, "the north wind doth blow," and fiercely. Under such conditions none but a cyclomaniac can find even a suggestion of pleasure a wheel.

But if American cycle manufacturers reckoned only on disposing of their product where good roads abound there would be fewer of them alive than are alive. It is notorious that the biggest "slump" in cycling occurred in and near the larger cities. It is the "town boy" and the countryman who have been most consistent in their use of the bicycle, and "park roads" are not for most of them.

With knowledge of such roads as prevail in England we are inclined to believe that if there is a nation of "park riders" it is the nation that inhabits England. From the American standpoint, all English roads are park roads.

It is a fair guess that the antics of the average English cyclist in a six-inch Louisiana rut or on a hand-wide footpath bordering a Jersey sand flat, would prove an exquisite pantomime.

Help From All Sides.

Nature has a great fondness for striking an average. If one season is unusually wet or dry or hot or cold, she nearly always sees to it that the excess or shortage of these things is equalized when the next season comes around.

Man has the same habit of striking a balance. But in his case the tendency is to go in for greater fluctuations, to pursue a pastime avidly at one time and then to grow lukewarm toward it. If it has staying qualities, however, if it returns him in pleasure an amount proportionate to the time and money spent in its pursuit, he is pretty sure, sooner or later, to return to it. He may not do this to such an excess as he did formerly, but that makes very little real difference.

For reasons having a marked affinity to these tendencies cycling has been taken into public favor again.

People are riding who, only a year or two ago, said they would never cycle again. Others who have been intending to resume, but who would never have done so unless they felt some impelling force, have made the plunge and are well repaid for their courage.

Their example is having weight with still others. The mere sight of a rider, gliding by swiftly and without apparent effort, with smiling face and joyful air, starts others to

thinking whether they would not be as well repaid if they should resume riding. The seed thus planted frequently takes firm root and sprouts, and if it meets with no setbacks the crop is almost certain to be a good one.

As the circles in a pond caused by tossing a stone into it widen and still widen, or a ball of snow grows in size and bulk with every revolution or portion of one, so the influence of one rider is felt by a score of others.

For years the tendency has been to turn the cold shoulder to cycling. Now the shoe is on the other foot, and people are putting aside the apologetic tone they formerly used when they admitted they rode, and avowing their predilection for cycling.

From this changed attitude it is but a short step to making a virtue of the fact.

There are always plenty of converts once a movement is well started. We are very fond of following a crowd, provided it is not too big, and when we assure ourselves that it is "the thing" to do so we frequently tumble over ourselves in our eagerness to join in a new movement.

For these and other reasons it is a pretty safe prophecy that the present revival is bound to assume much larger proportions.

The feeling is in the air that the return to the pastime has really set in in good earnest, and good words are being said for it everywhere. Indeed, the epcomiums pronounced on cycling by some of its erstwhile critics is a trifle embarrassing to those who remember the hard things these same critics said, and repeated with unction, in the long ago.

We can afford to be forgiving, however, and to welcome every effort to push along the revival.

Horsepower at the Tire.

If one horsepower is the equivalent of lifting 33,000 pounds one foot in one minute, what horsepower must be developed to drive a given motor bicycle at a given speed over a given road surface?

This question might on the face of it appear to be easily answered by known mathematical processes. It is a question, however, that cannot be answered except by actual tests and experiments on the road. These tests and experiments would be of somewhat costly character.

When a prospective buyer of a motor bicycle asks the horsepower he is generally answered with the horsepower which drives the motor on the brake. It is obvious, how-

ever, that a bicycle fitted with, say, a 2 horsepower motor may be far more efficient, weight for weight, than a bicycle fitted with a much more powerful motor, so much power may be lost in the method of transmitting the power from the motor to the road wheel.

So much difference of opinion exists among the experts, within their experiences so far possible for them to have, as to the best means of transmission that much data based on actual usage under many conditions must yet be collected before the matter can even approximately be decided. Each differing advocate has much that he can advance to support his contention, yet all cannot be right, and in the lot there necessarily must be some methods of transmission that are so wasteful that the power of the motor is no indication whatever of the efficiency as to the speed and net power of the bicycle as a whole.

It would appear advantageous that some tests should be instituted by the manufacturers of motor bicycles to determine exactly how much of the effective power of the motor is available for tractive work at the road tire. The road friction is a factor upon which no amount of test would prove reliable. It is so constantly varying as to make it a most difficult loss to properly approximate as to value.

It is within the range of possibility, and the equipment, too, in some factories, to determine the exact amount of power given off at the tire for propulsion purposes. It would practically amount to determining the brake horsepower at the road wheel by means of the prony. This would give the manufacturer accurate data as to the efficiency of his design of transmission, and furnish the prospective buyer of a motor bicycle with just the knowledge he will be requiring when he reaches a more critical purchasing position. This position may not come at once, but that it will come no one can doubt who watches natural sequences.

Every customer that comes into a store should have conscientious treatment. Permitting the inquirer for a bicycle to stand round while discussing the comparative merits of some small sundries with another customer is not conscientious treatment.

The bicycle may wait on the clear skies. It is certain that the clear eye and the clear brain wait on the bicycle.



MODEL 76 PRICE \$40.00

Orient Bicycles

KNOWN THE WIDE WORLD OVER.

WRITE FOR HANDSOME NEW CATALOGUE

APPLY FOR AGENCY

WALTHAM MFG. COMPANY, WALTHAM, MASS.

Reasons why the "BUFFALO, SR." is so Popular.

BOSTON HEADQUARTERS, 243 Columbus Ave.

NEW YORK HEADQUARTERS, 29-33 West 42nd St.

"BUFFALO, SR." AUTOMOBILE.



Model 7. Price, \$800.
6 BRAKE HORSE POWER MOTOR.

For PROFESSIONAL MEN,
BUSINESS MEN,
and FAMILIES.

6 Brake Horse Power Motor,
GUARANTEED.

2 Speeds and Reverse.

Long Wheel Base.

Wide, Roomy Seats.

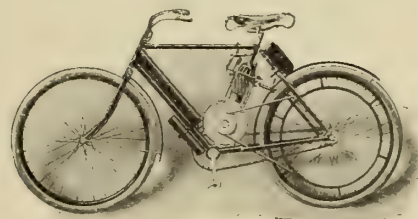
Tonneau Attachment.

Quiet Running.

COMFORTABLE.

RELIABLE.

"AUTO-BI" MOTOR BICYCLE.



Model 4. Price, \$175.

2½ H. P. Motor; belt-driven,
which is the

Favored Transmission
FOR MOTOR CYCLES.

THOMAS WORLD RECORD MOTORS.

BEST AGENCY PROPOSITION.

OUR GUARANTEE IS UNSURPASSED.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, 1200 Niagara Street, Buffalo, N. Y.

THE TOOL BAG HABIT

How it has Declined and one Man's Opinions of the Contributing Causes.

"Is it because machines are better or that cyclists are not such keen riders as those of a decade ago that the toolbag habit has witnessed such a decline?" asked the old rider.

"The thought was suggested to me by seeing the failure of a formerly well known toolbag concern. I remember well when they were a factor in the trade and sold immense quantities of toolbags; and yet they were only one of many concerns dealing in these articles. That brought me back, in memory, to the time when no rider ever thought of starting out for a ride without having a well equipped toolbag strapped to his machine. Or, barring that, with a good sized assortment of tools bestowed in his pockets.

"There was the wrench, which was easily facile princeps. Not even the most reckless rider—the one who scorned the thought of a toolbag—thought of venturing out without a wrench of some kind. The oilcan came next in importance for a while, but in later years it was ousted from this position by the pump and the repair outfit for pneumatic tires. A small screwdriver was acknowledged to be a handy article, and after the high wheel went out a chain link or two was always carried by the careful rider.

"It eventually came about that the pump and repair outfit disputed precedence with the wrench, and sometimes they even outranked it. Punctures and other tire troubles played a very important part in the life of the cyclist in the middle nineties, and to ask him to give up his outfit was only a little less terrible than to deprive him of his wheel.

"But how many riders of to-day carry repair outfits and wrenches—I'll not say a word about toolbags and the rest? If it were possible to calculate the proportion I'll venture to say that it would be very small.

"So I come back to my original question: Is there less trouble or less riding, more recklessness or less need for such things? I declare, it sometimes puzzles me to tell. In my own case, which might be called a typical one, it is really, as far as I can make out, a little of both. I don't ride as much as I did, and, on the other hand, I scarcely ever have any trouble.

"On my rides I never think of carrying either a pump or a repair outfit, although I do stick to the wrench from force of habit. I always make sure that I have one of them in my pocket.

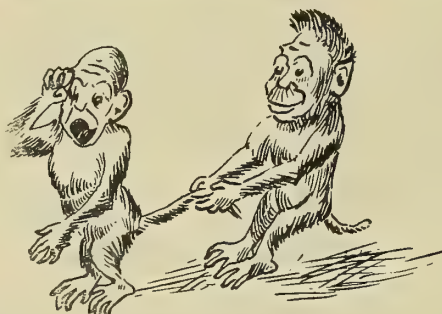
"It was the repair outfit that I gave up first. I seldom had any use for it, and the cement dried up so that it would not have served me in any case. Then, in a spirit of recklessness, I decided to go without an outfit. Next I mislaid my pump, and after taking a few rides without it, and having nothing

happen, I concluded to see the thing out if only for the fun of it. Nothing did go wrong, so I never had any occasion to regret my improvident condition.

"But, of course, my day will come if I keep on. To ward it off I think I shall get a new outfit and new pump and carry them with me as I used to do.

"As to the wrench, I can't remember when I have had to use it. As the tires always stay pumped up and appear to be puncture proof, so the machine itself is a model in the matter of behavior. Never a nut comes loose. It is really almost marvellous how it stands up.

"And yet I do considerable riding. So it can't be that my immunity from mishaps is due entirely to that."



"A MONKEY WRENCH."

The "Hands off" Idiot.

Riding a bicycle without the hands on the handlebar is forbidden in the streets of many large cities, and ought to be forbidden in any street where there is much traffic. No rider has the instant command of his wheel in an emergency unless his hands are on the handlebar. A very few might perhaps be trusted to avoid damage to others.

The real danger comes from the fact that those who possess much less skill and presence of mind form the larger majority of those who attempt to ride without using the handlebar. Where there are no law restrictions they can be seen, and it will be noted that they are always dangerous to any one within a moderate distance. Even the most skilful occasionally put themselves in a position it is hard to excuse.

On last Sunday one such was seen riding down a grade in the upper section of New York City. He was coasting, with his legs over the handlebar and with his hands well away from the grips. He guided his bicycle easily, but he was riding down a pretty steep incline, which would have made it difficult to stop if an emergency had arisen. The seconds he would have needed to obtain real command of the machine if the emergency had come would have been worth minutes of ordinary time.

Let any one watch a similar occurrence, and he will realize the danger of permitting a practice which largely increases the danger not only to those on foot, but to others who are on bicycles.

GASES AND THEIR CAUSES

Explosions and how Best Obtained—Why Motor Mixtures of Gas and Air are Safe.]

Explosion is an instantaneous ignition of a mass, and that mass may be solid or gaseous; thus, a mixture of charcoal, sulphur and nitre in certain proportions and prepared in a peculiar manner form gunpowder which ignites instantaneously, and the increased volume occasioned by the solid assuming the gaseous state is the cause of the force or power attending the combustion.

There are numerous other solid compounds infinitely more explosive than gunpowder, but the simple mention of this will be sufficient as example:

Certain gases, like those from the solids mentioned, when intermixed in due proportions are likewise capable of instantaneous combustion. For instance, hydrogen, when intermixed with oxygen, as before stated, in the proportion by volume of two of the former and one of the latter, ignites, producing an explosion. Coal gas when combined with air in certain proportions is also explosive, due to the hydrogen and carbon composing it entering into combination with the oxygen of the atmosphere, producing water and carbonic acid gas; and the nearer they approach to the proper proportions for the perfect formation of these compounds the greater is the force of the explosion.

A mixture of seven parts of air and one of gas is considered to be the most explosive compound, but this must depend upon the quality of the gas. The generally accepted theory is that mixtures of less than three of air to one of gas, or more than eleven of air and one of gas, do not explode. Accidental explosions from gases are comparatively rare, the odor arising from gas is generally so repulsive as to awaken in the minds of the most callous a desire to avoid the annoyance, and in so doing the danger is averted.

An explosive compound of gas and air, when under pressure, only ignites at the exterior of the pipe; but if the pressure is taken off the flame enters and the explosion follows.

On one occasion, on making a trial with a very small holder, 2 feet of explosive compound, with a pressure of 5-10 the gas issuing from 1/4-inch orifice, ignited with a very intense blue flame, but on taking the pressure off the holder and applying a flame an explosion occurred.

An explosive mixture always possesses a very powerful odor of the contained, and this is sufficient to indicate to any one that a flame should not be approached. Considerable data can be written on gas explosions, causes, etc., the prevailing conditions being so numerous, and some contrary to others. However, to be safe use caution, keep a pressure on the gas and oil and avoid a vacuum in the pipes whereby the flame can be drawn in, and gas in almost any state is harmless.

Heats—Coal produces 1,300 to 1,400 heat units; oil produces 1,800 to 2,100 heat units.

One cubic foot of oil vapor—gasoline—will carry 10 cubic feet of air.

Boiling heats—Petroleum, 305 degrees; water, 210 degrees.

Grades of oil taken from crude petroleum, in order given: Naphtha, gasoline, benzine, low grade coal oil.

TIRE AND RIM TROUBLES

Importance of Proper Seating of Tires and Drilling of Spoke Holes.

One would think that the knowledge of how to replace a rim and tire in a repair job was pretty general by this time, yet a bicycle repairer recently stated to a representative of *The Bicycling World* that once in a while a job comes to his shop that shows the ability in these lines where previous repairs have been made, is not as general as might be supposed.

Asked for his methods and views in the matter, he replied as follows:

One of the greatest advantages of the single tube tire is that when used on a crescent section wood rim it forms about the lightest combination which can be obtained for wheel tire purposes.

Some repair men have found difficulty in building up wood rims so that they will remain true, but if done properly no trouble should be experienced with them. The reason why so many wood rims have gone wrong is that cheap rims have been bought and the spoke holes have not been correctly drilled in them. The holes for the nipples in a wood rim must be drilled in such a way as to exactly lie in the direction of the spoke; that is to say, they must be splayed sideways in a direction to point to each flange of the hub. They must be also splayed circumferentially, so that every hole will lead to the right side of the hub, the spokes being tangent to the hub and not radial.

This is the point which has been most often neglected in the building up of wood wheels. Unless the hole in the rim exactly coincides with the direction of the spoke a wedging open action takes place in the direction of the grain of the wood, which will either split the rim or will cause it to get considerably out of truth. Care should therefore be taken to see that the spoke-holes in the rim are properly drilled.

The hole for the valve also requires some attention. The valve of a single tube tire, as you all know, is attached by means of a small rubber tube built up into the tire and vulcanized to it. This small tube is very easily injured in fitting, and it is part of the duty of the valve hole through the rim to protect it. The hole should be drilled of such a diameter as to allow the valve to be easily pushed through it without straining it in any way, and it is well to countersink the hole slightly in the bed of the rim, so as to insure that the valve base beds down snugly in position.

The cement used for attaching the tire to the rim is of the liquid variety, used cold. It sets hard in fifteen to twenty minutes and is soluble in naphtha. The under surface of the tire should be cleaned free from all flower of sulphur or "bloom," and may with advantage be slightly roughened by drawing an old file over it. In this way the

cement is offered a chance to attach itself firmly to the tire. The cement should now be painted over both tire and rim. It is very important that they should both be cemented.

If you were going to join two pieces of wood together by glueing, you would most certainly apply the glue to both pieces, and so you must apply the cement to both tire and rim. The valve should be pushed through the valve hole and the tire bedded down into the rim on either side of the valve, so as to insure that no strain is coming on the valve stem and that it is lying squarely in its hole.

The tire may now be lifted over the rim, pulling it away from the valve on either side until it fits equally on the rim all round. Now gently inflate it until it assumes its correct shape, but not hard. It may now be rolled round in the rim until it lies straight all round, with the tread of the tire at an equal distance from the rim on either side. Now inflate fully and allow to set.

Any cement which may have got on to the side of the tire or rim may be removed by applying naphtha on a piece of rag. If this operation is properly performed the tire will stick on to the rim and will not on any account come off.

I have had a letter from a gentleman who has made a most careful study of the use of single tube tires. He says, speaking of the fitting of the tire to the rim: "This is really the greatest trouble we have to contend with. As you know, if the tires are loose upon the rim, no matter how hard they are blown up, in course of time they are perfectly certain to either tear off the valve stem or rimcut the tire. I think the length of time it may take for such trouble to arise depends upon how hard the tire is kept inflated, as I have come across instances where a tire not cemented on to the rim at all has stood for about a year, but in this case the tire was always kept blown up exceedingly hard."

The cutting of the valve stem and the chafing of the tire on the edges of the rim can only be prevented by the proper application of the fixing cement. The case of the driving tire is more serious than that of the steering tire, as the former has to take all the drive of the machine through its connection with the rim.

It is important, therefore, that it be kept thoroughly well inflated and be carefully fitted and cemented to the rim.

It is not necessary to remove the tire from the rim when once fitted. Spokes may be replaced without in any way interfering with the tire, unless they have broken off in the nipple.

At the annual convention held in Indianapolis the National Association of Manufacturers increased its membership fee from \$50 to \$100 and elected these officers: D. M. Parry, Indianapolis, president; Hamilton Carhart, Detroit, treasurer; E. H. Sanborn, Philadelphia, secretary. New Orleans was selected as the next meeting place of the convention.

AS TO FACTORY MANAGERS

How Absence of "Secrets" has Altered Their Sphere and Made Success Harder.

Every manufacturing plant is a tool, it has no value except in its capacity to produce, says a close observer.

It was the general characteristic of the merchant, from the earliest times, to keep his knowledge secret and to make the best bargain he could. Modern conditions render this impossible; there will soon be no secrets of trade by which profits can be made; knowledge of what is going on anywhere in the world is even now open to all and any one can learn any specific thing. Profits must be made, not by buying cheap and selling dear, but by reducing the cost of production.

The work of the manager is to handle his tools, it is to manufacture rather than to trade. While the products must be sold, the greatest skill must be shown in getting the largest results which the tools are capable of. The most successful manufacturer will not be the one who has the shrewdest salesmen to dispose of his goods, but the one who can manufacture his wares more cheaply and at the same time better than any one else engaged in the same work.

The most successful transportation line will not be the one whose agents are most active in securing business, but the one which is the most closely handled, which can carry its freight at a less cost to itself than any competing line.

Permanent success will depend not on commercial drummers, but on the intelligent engineer; not on the shrewd guesses of the so-called business man, but on the accurate knowledge of the manager who knows what his tools are, who knows what it costs to produce, who knows the defects of his plant and the features in which it may be improved, who in fact is applying all the intelligence of an educated man, not selfishly to getting the better of some other man who may know a little less, but generously to getting the best work possible for himself and his employers out of what he has to work with.

For the Cycling Soldier.

The marked difference with which the bicycle is treated by the foreign war offices and that of this country is shown in the fact that an English maker recently shipped the second lot of bicycles, amounting to two hundred machines. The order has already been entered for a third lot.

Dates Set for League Meet.

July 16, 17, 18 and 19 have been set as the dates of the L. A. W. national meet at Atlantic City. It is more than likely that the N. C. A. will also hold a race meeting at the same place and on the same dates.

About Repetition Work.

While speaking of standard designs and repetition work, says an experienced operator, I should like to express dissent from the view sometimes put forward that the execution of work of this kind involves a lower class of engineering practice than the carrying out of a great variety of work. Those who hold this view have, I think, had little experience of what high-class repetition work really means.

In the first place, the maker of a machine which he turns out in large numbers must, to be successful, be quite free from anxiety as to the quality of any such machine when it leaves his factory. There must in such a case be no question of improvements or adjustments being effected after the article sold reaches the hands of the purchaser.

One cannot conceive the makers of a sewing machine or of a typewriter having any anxiety as to the performance of any individual machine they may turn out; and the same should be the case with any machine of standard type. This means, of course, a system of examination and testing of a vastly higher degree of efficiency and exactitude than was deemed necessary under the older methods of manufacture, and as a result the purchaser as well as the manufacturer gains greatly.

Moreover, the inspection during manufacture must not be confined to the gauging of dimensions or accuracy of erection, but must extend to the quality of materials used. Where automatic machinery is employed and every endeavor is made to get all the work possible out of a machine, irregularities in the character of the material operated upon or in the quality of the tools used are often disastrous, and thus a careful watch must be kept to avoid such variations.

Downing's Loop and Looping.

Hardy Downing, the California racing man, who last year appeared on the Eastern tracks, is now looping the loop at Los Angeles on a loop and in a fashion that in some respects quite discounts the performance of "Diavalo" Vanderpool, who is drawing big money on the circus circuit in this part of the country.

"Diavalo's" loop is 3 feet wide at its narrowest point, 12 feet wide at its widest, and he finishes on a level. Downing's loop is but 12 inches wide throughout, and he not only dashes down an incline, but rushes up one to a slight platform, where he is caught by an attendant. "Diavalo" rides a specially built bicycle without pedals; Downing uses pedals. The latter's loop is, however, made with a narrow groove or slot in the centre, and in this Downing's bicycle is fitted; according to one description, "a thin piece of steel slides in the slot and is fastened to the crank hanger, thus steering and guiding the bicycle."

Downing expects shortly to appear in the East in his new role.

The latest name for the cycle whirl is the tea-saucer track.

Quaker City's Organization.

The Cycle Dealers' Association, which is the title of the organization recently formed in Philadelphia, is officered as follows: Charles Bradley, president; William Trafford, vice-president; William Vees, second vice-president; T. A. Mahoney, treasurer; W. G. Rhoades, secretary; Robert H. Pflugfelder, assistant secretary.

The Road Committee having in charge the events of the season are William Trafford, Edwin L. Hoffman, Edward Zeigler, Charles Haight, Thomas Mahoney, William Vees and Joseph Lehman.

The association has a regularly employed press agent, who is booming the "invitation run" on May 4 most industriously. He predicts that between two and three thousand riders will present themselves for souvenirs and join in the Sunday jaunt to the sacred concert which is to be a feature of the outing. The souvenir is to be a bronze badge suspended from ribbons of red and yellow—the Quaker City's colors.

The experiment of thus undisguisedly parading "shop" before the public is being watched with no little interest.

Morris Returns to Rochester.

Joshua M. Morris, designer of the Patee motor bicycle, has returned to his home city, Rochester, N. Y., where he has entered into partnership with Thomas Corkhill under the firm name of Morris & Corkhill. The new firm is located in Central avenue.

They are placing on the market a racing model, a regular model and a combination tandem. All are equipped with air cooled motors made by the firm, which also makes its own frames. In the single machines the motor is carried just forward the seat post frame tube. The lower tube from the head follows the curve of the front wheel, and then curves back and under the motor crank case up to the pedal crank bracket.

The motor is direct connected to the rear wheel by a chain drive. The tanks are two in number. One is placed in the main frame forward of the motor and the other back of the rear stays and over the rear wheel. The design gives a long wheel base, which should give easy riding over the average country roads.

One Source of Profit.

Bicycle agents should not overlook the profits to them in carrying both gasoline and lubricating oil. The opportunities for selling to motocyclists may be limited at present, but the motor vehicle is getting fairly prevalent in most districts. A push for the trade among local automobilists should be made, and if located on the main thoroughfare touring vehicles will bring in a pretty penny before the year is over.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

Ball Bearing Ideals.

The superiority of ball bearings lies in the fact that rolling friction is less than sliding, says an authority on the subject.

Further study of the subject will disclose the additional facts that, like wheels, balls must be proportioned to the loads they carry and the surfaces on which they travel; and it is these last two conditions which have been overlooked or ignored, that require solution if the ball bearing is ever to come into general use.

To properly get at the principles of ball bearings it is necessary to go back first to the well known advantage of sliding friction. If a man desires to move a box along a floor he pushes it. A certain amount of force is required to do it. If he can slide it only by great effort he places a roller under it, when he moves it with ease. This demonstrates the superiority of rolling over sliding bearings. If, now, he places another roller in contact with the first he will find that the box will move easier than when slid, but not so easily as when on one roller only, and this increase of friction is due to rubbing or sliding of the two rollers on one another, and so on.

Balls can, of course, be substituted for rollers, and the result of the experiments will be the same; you will have eliminated the sliding friction between the box and the floor, but you will have added the sliding friction between the contact points of the rollers or balls.

The simplest form of ball bearing, therefore, is one ball rolling between two plane surfaces. Such a bearing is practically frictionless, but it is impracticable in applied mechanics. Two or more balls must be employed and they must be restricted in their path of travel. These necessities introduce two elements of friction, and it is the purpose of this paper to show how this friction may be controlled and reduced.

It will not be necessary to demonstrate that ball bearings are unsuited to plane surface motion—either continuous or reciprocal—and that they find their proper place as bearings for journals, particularly those running at high speeds. As it is necessary to retain the balls in a definite and distinct path of travel, they cannot be made to run between an inner cylinder and an outer cylindrical tube. In such a bearing they would not remain in their proper places. Some means of confinement is therefore requisite. This should be of such a character and should take such a form as to interfere as little as possible with the free rotation of the balls.

More Evidence of Renewed Interest.

Further evidence of the revival of cycling interest is afforded by the action of the Edison cinematograph people. They have arranged to "take" the Century Wheelmen of this city on a club run, and again as depicted on a century run with beribboned pacemakers, etc. These moving pictures will be shown throughout the country.

NEUTRAL'S VIEWS

Cites his Experience to Prove Difference Between American and English Bicycles.

While the English trade press is forever proving (by its own assertions) the grand, glorious and glittering superiority of the English bicycles over those made in America, Germany, France, India, Iceland and "every other old place," it is, after all, the opinion of the neutral purchaser that tells the story. One opinion of the sort has just reached the *Bicycling World* from Johannesburg. It is a typical instance, viewed from whatever standpoint. The Johannesburger, who is in the cycle trade, thought to obtain a shipment of British bicycles, and wrote to a prominent Coventry maker for trade quotations on \$45 bicycles.

The tradesman is a correspondent of the *Bicycling World* and has forwarded copies of the letters relating to the matter to this journal. In answer to his inquiry the following was sent him:

"We are in receipt of your letter dated January 23, and note your remarks re American cycles. Of course, we do not for one moment compare the bicycle we are asking £9 for to the American machine. If that is the quality of cycle you require, we regret we are not in a position to supply you with same. We regret that we cannot do business with you."

The Johannesburg tradesman, fully realizing the position, answered as follows:

"Your favor of the 17th ult. is at hand and contents noted. Am sorry that you cannot turn out a machine as good as any one, but trust that when you are able to do so and can sell it at somewhere near the same figure and terms you will advise me.

"Latterly I note some English cycle makers have been getting machines and prices right, and I trust some day to be able to find a firm that can meet American competition in both goods and prices."

Commenting on the situation as a whole, the correspondent adds that, quality for quality, American cycle makers are about \$10 ahead on the average, although there are some English makers who seemingly get \$25 more than American makers.

Revival in Hudson.

"Our little city can now boast of a genuine bicycle club, which was organized about two weeks ago with a charter membership of fifty, which number has steadily increased until the club is now in very good shape," writes J. W. Ash, of the Bean-Chamberlin Mfg. Co., Hudson, Mich. "The purpose is the construction of a cycle path to Devil's Lake, a popular summer resort in this vicinity. The organization is styled the Hudson Athletic Club, and the enthusiasm shown causes one to think that we were back in the palmy days of yore."

Catalog That Fills its Mission.

What to the eye is easily the most attractive motor bicycle catalogue that has yet appeared is that just issued by the Holley Motor Co., Bradford, Pa. But it is not all on the outside. Between the covers the subject is handled as it should be handled. Not only is the Holley and its features detailed, but the mistake is not made of assuming that that is all that is necessary; instead and properly, an effort at word-painting the advantages and delights of motor bicycles in general is made. The most is made of the "no heat, no hills, no headwinds" keynotes; they are struck forcibly and tunelessly.

K. Ishikawa & Co., of Yokohama, who recently took on the Japanese agency for the Mitchell motor bicycle, are going about

EXPERT IGNORANCE

Why Motorcycles are Sometimes Damned—What Balked one So-called "Expert."

"For the Lord's sake, don't fool with that machine! Our man has been trying to get it going for the last two days."

This was the exclamation of the manager of no small store in which motor bicycles had recently been taken on. Those to whom it was addressed were not motorcycle novices, and they had made bold to move the levers. The "man" referred to was supposed to be the store's motor expert.

empire and literally "astonishing the natives." Ishikawa & Co. appear confident of the future of motor bicycles, and write that



things in the right way. They have engaged W. C. Vaughn, an American trick rider and motor expert, who is now circulating in the

"the Mitchell is already becoming famously known by everybody." The accompanying picture shows Vaughn and his Mitchell

Tires for Motor Bicycles.

It is to be hoped that economical or other reasons will not induce builders to use tires of small diameter on motor bicycles. The greater weight and speed of these machines, as compared with ordinary bicycles, call for increased cushioning. When all is said and done there is no simpler or more effective anti-vibrator than a large tire. Excessively large sizes, however, increase the liability to skidding. Hence a happy medium should be followed.

The men who were not novices finally volunteered to locate the trouble that had so long balked the "expert."

They found first a foul spark plug and next a cylinder fairly flooded with lubricating oil which splashed and refoiled the plug every time the motor operated. By merely opening the drip cock fully a pint of oil was removed.

"With such 'expert' ignorance and thick-headedness on such a simple point, do you wonder that some people damn motor bicycles?" disgustedly added the man who told the story.

BLOW PIPE PRESSURES

Experiences of a Well Known Authority Showing Their Effects on Brazing.

Thomas Fletcher, F. C. S., the well known authority on gas heating apparatus, in his book on "Coal Gas as a Fuel" deals with the question of blowpipes for brazing. He says an average adult can, with an effort, give an air pressure in a blowpipe equal to about 36 inches of water pressure, or $1\frac{1}{2}$ pounds to the square inch. The average pressure is, however, about half this, or rather less, the maximum being only obtained by a severe strain, which cannot be continued.

A fan worked by the foot will give an air pressure equal to about $\frac{1}{2}$ inch to 1 inch of water.

A fan worked by power will give air at from 1 to 5 inches of water pressure, depending on its speed and construction.

An average smith's bellows about 5 inches in pressure.

Small, heavily weighted circular bellows about 8 to 10 inches pressure.

Root's blower driven by power, 24 inches pressure.

Fletcher's foot blowers, Nos. 3 and 5, 30 inches pressure.

Spring air chamber foot blower (irregular), 5 to 20 inches pressure.

The temperature of a blowpipe flame may be estimated from the above, being in close proportion to the pressure of air supplied, and it may be taken as a rough rule in brazing or hard soldering with gas that, given an air pressure equal to 15 inches of water, a blowpipe having an air jet of $\frac{1}{8}$ inch bore will braze work up to $\frac{1}{2}$ pound total weight. One with an air jet of $\frac{3}{4}$ inch bore will braze up to about 2 pounds total weight, i. e., two brass weights, each 1 pound, could be securely brazed together with a blowpipe with $\frac{1}{4}$ inch bore air jet, and supplied with air at a pressure equal to 15 inches of water, or 10 ounces to the square inch.

It will, of course, be remembered that the areas given are those of the air jet or point at which the blast leaves the blowpipe, and the area of gas supply is that of the space between the air tube and the gas tube outside it. The area of taps and pipes to supply these must, of course, be larger to prevent friction as much as possible.

When anything like a high power is required it is of the first necessity that any elastic or flexible tube used shall be perfectly smooth inside. A length of six or eight feet of india rubber tube, with wire inside, will reduce a gas supply or a pressure of blast to about one-half. Practically this amounts to requiring apparatus double the size for the same work, and it therefore does not pay to use rough tubing.

Applying the rule to other shapes of work, it may be taken that a blowpipe which will braze a block of 2 pounds total weight, when the work is supported on a good non-con-

ductor, will braze brass plate up to $\frac{1}{8}$ inch or 3-16 inch thick. Its capability of brazing iron is not so great, as iron does not take up the heat of the blowpipe so readily as brass does.

When the blowpipe is supplemented by either a bed of burning coke or by a non-conducting jacket round the work the power of any blowpipe may be extended almost without limit, as little of the actual work of heating the body of metal is done by the direct blowpipe flame.

In the construction of blowpipes for gas they should be so proportioned as to give the maximum effect for the minimum of fuel and blast. To do this the air pressure available must be an important factor.

Speaking roughly, but still sufficiently near to make a correct rule to work by, a blowpipe requires 1 of gas to 8 of air. If the gas is supplied at a pressure equal to 1 inch of water and the air at 8 times that pressure, the area of the gas and airpipes should be equal to get the best effect. If the air supply is equal to 16 inches of water pressure, the gaspipe must be double the area of the air, and so on in proportion.

Of course, the air and the gas supplies can be adjusted by taps easily, but in the first construction of a blowpipe for large work this rule must be adhered to. Any departure from it reduces the power of the blowpipe, and the ignorance of this simple rule has frequently caused failures which the makers of blowpipes have been unable to explain.

It is often an advantage to build up a blowpipe quickly for some special work, and the method and rules for construction are here given, bearing in mind always that a high pressure blast gives the most compact and highest temperature flame, without having any actually greater quantity of heat in the flame produced.

At day pressure—10-10ths on the gas supply a $\frac{1}{2}$ -inch pipe with $\frac{1}{2}$ -inch bore tap will supply about $1\frac{1}{4}$ cubic feet per minute, or 75 cubic feet per hour. A 1-inch bore pipe and tap will supply about 5 cubic feet per minute.

About 25 cubic feet of gas equals 1 pound of coal in fuel value, and, therefore, a $\frac{1}{2}$ -inch gaspipe will supply at the rate of 1 pound of coal, in gaseous form, in 20 minutes. To burn this in a blowpipe an air supply of 10 cubic feet per minute is required, and given the available blast pressure the area of the air jet necessary is easily found.

For any except very small work some mechanical blower is absolutely necessary. Those who do not care to go to the expense of any of the apparatus usually sold can produce a good makeshift with one or two pairs of common house bellows. If an upholsterer's or soft spring is placed between the handles so as to render the opening of the bellows automatic, the pressure of the foot on the top board will give a strong blast of air. This, although intermittent, acts very well for a large proportion of work, and a full sized pair of house bellows will

supply a blowpipe with an air jet of full $\frac{1}{8}$ inch or 3-16-inch bore.

A continuous blast, at all events for soldering and brazing, is not at all required. To obtain a continuous blast from this arrangement several ways may be adopted. It is, of course, necessary to have a reservoir, which is always under pressure, and some means must be adopted to prevent the air in the reservoir blowing back into the bellows while they are being lifted between the strokes.

Points on Case Hardening.

Suppose you have some articles which need the ends hardened, while it is desirable to have the centre soft, says an authority on case hardening.

The surfaces of the ends need hardening, while the centre should be soft. Pack the ends, inside and out, with hydro-carbonated bone and charcoal, having previously filled the centre with expended bone, cover the outside of the centre with expended bone, run seven or eight hours after hot.

Heat the ends separately in the lead pot, dip in a bath of lukewarm water, dipping with the heated end up, as steam would prevent the water entering the end. If water cannot enter work it certainly cannot harden. If this piece is dipped with the heated end up the water readily enters; the ends will be found to be extremely hard and the grain will be very compact.

When it is necessary to harden the centre of a piece and to leave the ends soft, it can be readily accomplished, provided the ends are smaller than the centre. Take, for instance, bicycle chain studs. Take wire in such lengths as can be put into the longest hardening box we have, pack with raw bone and charcoal, run three hours after box is heated through. When cool put in the screw machine and cut the ends to size. When the machine work is completed heat in a tube and dump into water. Having cut the stock below the carbonized surface on the ends, they cannot harden, while the centre will be hard; the ends being soft can be riveted in the chain.

In hardening ball cups or seats made of machine steel pack in a mixture of equal parts of charred leather and granulated charcoal, and run six hours after the box is heated through. When cool heat in the lead pot and quench in a bath of raw linseed oil. Leather is used because the cups are generally quite thin and require toughness as well as extreme hardness.

Worcester's Good Season.

Dealers in Worcester, Mass., say that the sale of bicycles up to date this season is greater than the combined sales of last season. That more wheels are in use is easy to see if the observation is made at early morning or when the people are returning from work at night, adds a local paper. That the bicycle has at last come down to a utilitarian basis is noticed in the number of people who now use the machine in going to and from their work.

FACTORS IN HARDENING

Physical and Chemical Changes That Take Place as Shown by the Microscope.

The art of tempering steel has been known for centuries, but the nature of this process has not until recently been demonstrated. The fact that a bar of steel can be heated and cooled and by this process have its physical characteristics changed without altering its chemical composition seems in itself to be strong evidence that a change of no mean dimensions must have taken place in its structure.

Before the utilization of the compound microscope it was impossible to obtain any definite knowledge concerning this change, but its use, supplemented by careful chemical analysis, has done much to unravel this mystery.

It was formerly supposed that when a piece of tool steel was heated above moderate redness and quenched that the sudden cooling in some manner made the molecules of iron come into closer contact, and hence so greatly augmented its density. This theory was, however, ridiculous since the volume of any material thus treated was also increased.

Microscopic examination showed that the real cause of hardness was the formation of a subcarbide of iron of the probable formula Fe_2C . This compound decomposes in the presence of the most dilute acids into the normal carbide of iron and pure iron which appears under the microscope as ferrite.

This subcarbide of iron possesses almost diamond-like hardness and also a greater capacity for permanent magnetism. Its decomposition may be affected by annealing, and in such cases it is to be remembered that the temperature need not be higher than moderate redness, as it has been found that this carbide is decomposed by a temperature as low as 400 degrees C.

It is readily seen from the above facts how quenching may harden and annealing soften any steel which has a high carbon content.

Following this same phenomenon a little further, the above facts also constitute an explanation of why heating to dull redness will invariably destroy any permanent magnetism which a steel may possess.

It is only necessary to keep in mind the capacity this carbide has for permanent magnetism and its low temperature of decomposition in order to have in hand all of the causes which are operative in bringing about this seemingly strange result.

While considering this form of carbon and iron combination, it will be apropos to spend a moment on another phenomenon, commonly known as case-hardening.

This process has been indiscriminately called a carbonizing or a phosphorizing one, according to whether the material to be case-

hardened was packed in charcoal or bone-meal. As is well known, the depth or extent of this surface hardening is in proportion to the amount of time that the incandescent material is kept in contact with the packing, and also varies with the kind of filling used.

The fact that is most worthy of our attention is that no hardening takes place until the material is quenched, and the higher the temperature at which this quenching occurs, the harder will be the material thus treated.

In order to determine if this process consisted in phosphorizing or carbonizing the stock, a bar of low carbon steel was cut into two pieces, one being retained as found, and the other heated with the packing along with other work, being case hardened for three successive days.

At the expiration of this time a sample of each piece was taken into the laboratory and



NEW YORK BRANCH: 214-216 WEST 47TH STREET

analyzed for carbon and phosphorus. The analysis showed the following results:

	Original stock.	After being case hardened.
Phosphorus . . . . .	.006 per ct.	.006 per ct.
Carbon . . . . .	.0768 per ct.	.225 per ct.

In the original stock this carbon proved to be in the form of the ordinary carbide of iron (Fe_3C), both from microscopic and chemical tests. The case hardened piece was then heated and quenched until it was so hard that a file could scarcely cut it.

An examination was made to ascertain in what state the carbon now existed, and again both microscopic and chemical tests were made, with the result of proving beyond a doubt that the carbon had changed from the ordinary carbide form into the almost diamond hard subcarbide of iron of the formula Fe_2C .

Coming back to heat treatment and its effects upon steel in general, there is no more remarkable discovery that has been made in this field for many years than the explanation of the phenomenon of water annealing.

This heretofore inexplicable process is now accounted for in the most commonplace man-

ner, by means of the facts recently found out by the microscopic examination of iron.

If the end of a bar of iron be heated to a light redness and quenched in water, while the other end be left cold, it will be found that there is a place along the bar where the hardness is less than it was before the heating, although the end most highly heated be so hard that a file cannot cut it.

It is now known that the increased hardness is imparted to the steel by the changing of the normal carbide of iron to the subcarbide.

This subcarbide existed in small quantity in an emulsified form in the original bar, thus giving it what hardness it possessed. Now, as this subcarbide decomposes at so low a temperature, there is a place in the bar where what little subcarbide did originally exist is changed into the normal carbide, and thus the determination of that portion which will be water annealed.

As the temperature rises this normal carbide would be transformed into the subcarbide, but as this rise at this point never takes place, the carbon is left in this intermediate form.

Transparent Sparking Plug.

As is pretty well known, an electric spark will not jump across the gaps of a plug so satisfactorily through compressed gas as it will do in free atmosphere, so that it frequently happens that a plug will appear to spark beautifully when taken out of the engine for external testing, and yet will fail to fire the charge satisfactorily when screwed in. The latest in spark plugs in England is a glass tube closed at one end, like a chemist's test tube, and shaped so as to take the place of the usual porcelain. The object of the glass is to enable the character to the spark to be observed.

By the use of the glass in the plug the operator can look right into his engine and observe the character of the spark under the varying circumstances of merely revolving the wheel without admitting gas, and driving the engine with various kinds of mixtures. The glass tubes can be easily inserted into existing plug shells.

Weighting the Drain Cock.

In fitting a drain cock to either the crank chamber of the motor or to either of the oil tanks, the handle should be weighted. The cock should be so arranged that when the handle is in its horizontal position the passage is open. By this arrangement it will be clearly understood that should the cock be left open or wear loose the weight of the handle, with the vibration of the machine, will tend to close the passage.

When Entries Close.

As the event appears to have stimulated considerable coaster-brake rivalry, the fact that the entry list of the Metropole Cycling Club's coasting contest closes on Wednesday next, the 7th inst., may prove of more than local interest. A. G. Ibbeken, 27 West One Hundred and Twenty-fourth street, New York, is in charge of the list.

The Retail Record.

Goshen, Ind.—Charles H. Bemenderfer succeeds Watterson & Nickum, North Main street.

Hillsboro, N. H.—Frank E. Halliday opens store.

Indianapolis, Ind.—John Orman opened wholesale house.

Indianapolis, Ind.—The Diamond Company has taken building at Massachusetts avenue and Walnut street.

Terre Haute, Ind.—A. Cheney moved to Swope Building.

Vassar, Mich.—S. R. Durham succeeds S. R. Durham & Co.

Wakefield, R. I.—Harry Clarke moved to Ransford Collins Building.

Washington, D. C.—H. W. Hingham, Jr., succeeds H. W. Hingham, Jr., & Co.

Windsor, Vt.—Baker's bicycle shop moved to Billings Block.

Danvers, Mass.—F. A. Butler opened store.

Niles, O.—Winfield & Kemp opened store.

Bay Shore, N. Y.—Jesse Grant moved store.

Valley Stream, N. Y.—Charles Schneider opened store on Rockaway avenue.

Clyde, N. Y.—E. H. Malaney moved to Stoetzel Building.

Glens Falls, N. Y.—William J. Guthrie succeeds Guthrie & Knight.

Dalton, Mass.—James Finkle opened store in Riverside Block.

Onset, Mass.—F. W. Magoon opened store.

Port Chester, N. Y.—Ed Knapp moved to Archer Block.

South Coventry, Conn.—Frank Powell opened store.

Danbury, Conn.—James Foy opened store on Bailey avenue.

Marblehead, Mass.—Edward J. Boyle opened store on School street.

Pittsfield, Mass.—Messier & Ford opened store at 258 North street.

Washburn, Me.—J. O. Brewer opened store.

Grand Forks, N. D.—John S. Johnson opened store 119 South Third street.

Jefferson City, Mo.—Robert Davis opened store in Madison street.

Unadilla, N. Y.—Oles & Balister opened store.

Lee, Mass.—Harvey Penn opened shop.

West Chazy, N. Y.—L. L. Housinger opened store.

Waltham, Mass.—Ayer & Cady opened store on Prospect street.

Ashland, Wis.—Bert Quinlan opened shop.

East Kingston, N. H.—Webster & Holmes, opened store.

Ridgefield, Conn.—Samuel Dickens opened shop.

Carlisle, Pa.—John A. Kaufman opened shop in Beaton building.

Vanderbilt, Mich.—Ynill & Marford opened store.

Madera, Cal.—Vogeler & Duncan succeeds C. L. Thomas.

Underhill, Vt.—Wilbur & Edwards opened store.

Norway, Me.—Edward Cross opened shop on Bridge street.

Baldwinsville, Mass.—W. F. Oliver opened shop in Bank building.

Burlington, Vt.—B. C. Rogers succeeds Rogers & Buxton.

Owego, N. Y.—Russell & Horton, erecting new building, corner Main and Howell streets.

Improvement in Chains.

It is astonishing how few chain breakages or other troubles there are now, in spite of the fact that so many light chains are in use. The $\frac{1}{8}$ -inch chain is no longer an unusual size, as a little observation will show. Nevertheless, they rarely fail to render satisfactory service, and wheelmen have become so accustomed to this that they seldom take the pains to supply themselves with the means of making repairs on the road. It is doubtful if one in ten riders makes it a habit to carry spare links or blocks, and yet this utter helplessness is seldom brought home to them.

Nor do chains stretch as they did in former years. To take out a link merely because the chain has stretched is an almost unheard of occurrence with the ordinary run of riders. Nor, on the other hand, do badly fitting chains mar large numbers of wheels as they once did. If a chain grinds or cracks it is usually because it is in need of cleaning or lubricating, or both.

As a matter of fact, chain making as an art has undergone marked advancement. Better material and workmanship both have a share in this. Steel of different grades, adapted to the different parts they have to play, and greater skill in the various processes of manufacture, these are the lines along which the improvement has taken place.

What Bicycles Have Demonstrated.

The bicycle has demonstrated more, perhaps, than any other vehicle the great adaptability of steel tubing for structural designs. It combines to a superlative degree strength, lightness and freedom from vibration, together with the elasticity which is almost essential to the easy operation of a bicycle or similar vehicle structures.

An almost essential adjunct to the tubing is the pressed steel stamping, this material having the same characteristic of great strength with lightness that is possessed by tubing. That stampings should be made in such a way as to be brazed to the tube, forming a suitable frame as above outlined, is natural; and were it not for other methods which developments have made possible it might perhaps be considered the only reliable way to unite such parts to produce the desired results.

It is claimed, however, that there is one serious objection to the brazing process, namely, the softening or annealing of the tubing for a considerable distance from the juncture with the stamping, thereby weakening the tube at that point, and consequently the whole structure.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York. ***

The Week's Exports.

While below the volume of recent weeks, last week's exports were still heavy. Germany only exceeded the \$10,000 mark, but Great Britain, with purchases of \$6,800, New Zealand \$5,300, Belgium \$3,400, Sweden \$2,900 and China \$2,400, made up the bulk of a considerable total. The record in detail follows:

Antwerp—51 cases bicycles and material, \$3,495.

Amsterdam—9 cases bicycle material, \$520.

Aalborg—1 case bicycle material, \$10.

Argentine Republic—1 case bicycle material, \$30.

Brazil—1 case bicycle material, \$35.

British Australia—67 cases bicycles and material, \$2,123.

Bremen—8 cases bicycles and material, \$200.

British East Indies—10 cases bicycle material, \$465.

British Possessions in Africa—1 case bicycle material, \$37.

Cuba—13 cases bicycles and material, \$450.

Cologne—3 cases bicycle material, \$150.

Christiania—55 cases bicycles, \$1,361.

Copenhagen—73 cases bicycles, \$1,359.

China—45 cases bicycles and material, \$2,400.

Dutch East Indies—2 cases bicycle material, \$125.

Egypt—3 cases bicycles, \$100.

Dresden—4 cases bicycle material, \$200.

Frankfurt—1 case bicycle material, \$69.

Glasgow—4 cases bicycle material, \$190; 10 cases bicycles, \$250.

Genoa—4 cases bicycles, \$170.

Gothenburg—51 cases bicycles, \$2,298; 5 cases bicycle material, \$150.

Havre—179 cases bicycles, \$2,689; 15 cases bicycle material, \$945.

Hamburg—278 cases bicycles, \$6,041; 115 cases bicycle material, \$3,991.

Jacobstad—28 cases bicycles, \$825.

Hull—4 cases bicycle material, \$45.

London—21 cases bicycles, \$810; 56 cases bicycle material, \$2,160.

Liverpool—73 cases bicycles, \$1,850; 12 cases bicycle material, \$530.

Lausanne—49 cases bicycles, \$2,400.

Newfoundland—21 cases bicycles and material, \$769.

New Zealand—159 cases bicycles and material, \$5,352.

Peru—1 case bicycles and material, \$100.

Philippines—1 case bicycles and material, \$20.

Rotterdam—8 cases bicycle material, \$106.

Siam—6 cases bicycles and material, \$315.

Southampton—29 cases bicycle material, \$1,505.

Stockholm—11 cases bicycle material, \$562.

St. Petersburg—4 cases bicycles, \$145.

Stavanger—28 cases bicycles, \$700.

Trieste—1 case bicycle material, \$25.

"The pleasure of cycling depends largely upon the resiliency and reliability of the pneumatic tire," tritely remarks the new catalogue of the G & J Tire Co. "A tire that is stiff and unyielding lessens to a vast extent the pleasure of riding. A tire that is full of resiliency, or spring, not only to a large degree removes the jolts and jars, but requires much less power to propel the wheel."

CRANKS AND GEARS

Lengths and Sizes Should Differ With the Users Says This Party to the Discussion.

Just lately I have had exceptional opportunities of observing the effect of long and short cranks and gears in proportion on the riding of a friend whose company I enjoy almost every week end, and whose form I consequently know to an ounce, writes an oldtime cyclist.

In the first place, I may say he is an old cyclist, and commenced riding in the high bicycle days, when he used to perform on a 56-inch. He could really have ridden much higher bicycles, but he was never bitten by the craze of smaller men for reaching too big a wheel.

Up till three years ago 7 inches was the longest crank he had tried, and he was not impressed with it, and dropped back to his old combination of 6½ inches and 63 inches, as he found any gear above that was not satisfactory. Then with a bound he went on to 9 inches and 90 inches, and from the first time I accompanied him with the new combination I was impressed with the improvement in his riding.

Later on he adopted the two speed hub, and the improvement was still more marked, for it had been evident that at times the 90-inch gear was a little too much for him on the steeper slopes. Of course, theoretically it ought not to have been, but the fact remains that it was, and that the two speed hub entirely removed this drawback. So far so good.

It so happens that owing to some experimental work being done on the long crank machine it has not been available for some time, and my friend has been riding machines with 6½ inches and 65 inches and 7 inches and 70 inches. The difference in his riding is most noticeable. Quite apart from the fact that he does not enjoy himself nearly so much, he does not ride so well either on the level or up hill.

This was to be expected for a week or so, but after a month or more of short cranking I assumed he had resumed his acquaintance with the smaller combinations. However, last week the old long crank machine was again on the road, and although he had not been on it for over a month I found that he was himself again immediately he started out.

This is another proof of the truism that cranks and gears are a matter for the individual rider, and our friend has found his best combination, after going through all length between 4¾-inch and 9-inch. As he is above the average reach, he found the 8-inch and 80-inch, although much better than 6½-inch and 65-inch, not so good for him personally as the still bigger combination. It is as ridiculous to think that all men should use one length of crank and one

height of gear as it is to maintain that they should all wear the same size and color of hat.

Even Boston has Awakened.

How times do change, to be sure. It was only last autumn that observers of cycling matters noted the fact that in Boston wheeling was as dead as the proverbial door nail.

The city of culture and beans, once the hub of cycling and always the cyclist's paradise, by reason of its magnificent roads and delightful suburbs, had turned its back on cycling. The accustomed haunts of the wheelmen were deserted, their former frequenters had turned to other pastimes, and their mounts were bestowed in odd corners and utterly neglected. The sight of a cyclist was an unusual occurrence, the appearance of two or three an event worthy of record.

But almost while these observations were being made a change was coming. The plummet had struck bottom. The first little patch of bright sky was perceived just when it seemed that the horizon could get no larger.

The changed aspect of the sport is thus described by the Boston Post:

"The two or three bright days we have had since the roads were settled have seen a revival of wheeling which brings memories of the days of its greatest popularity. Singly, by twos, by threes and in small parties, these wheelmen and wheelwomen have taken possession of the boulevards and country roads, with no purpose of riding centuries or making records, but only for the pleasure of the thing. Yesterday and the day before there were probably ten times as many bicycles as a year ago at this time out on the roads about Boston and in the park system, even in the face of the strong wind blowing. It is a healthful, sensible form of recreation, and the restoration of its popularity is gratifying."

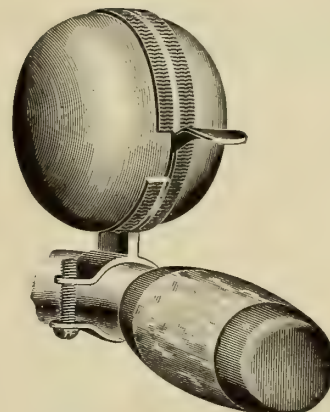
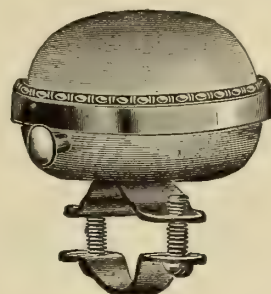
Motocycles and Health.

According to an anonymous physician in the pages of an English journal, the motor bicycle has already been the means of restoring to perfect condition a young man broken in health by attempting and failing at an Indian Civil Service examination. He was a cyclist, and his physician prescribed for him a dose of motor cycling as a means of obtaining a maximum of fresh aid with a minimum of work. This particular physician is of opinion that a man may be far too keen on a walking, bicycling, golfing or Alpine climbing spell of work, and that what men want in this age of work and struggle is a holiday of lounging laziness, combined with exhilaration, such as the driving of a motor vehicle permits. "Were I writing," he says, "with the smallest glance to self-interest, I should write in praise of Alpine climbing, golf, or bicycle record-making, for it is these more violent forms of recreation which bring the doctors so many after-holiday patients." He gets most benefit who makes least effort, is the summing-up of this doctor's doctrine.

YOUR STOCK IS INCOMPLETE

IF IT DOES NOT INCLUDE

Bevin Bells.



ALL STYLES, SIZES AND PRICES.

ALSO

Toe Clips, Lamp Brackets,
Trouser Guards, etc.

BEVIN BROS. MFG. CO.,

EAST HAMPTON, CONN.

Founded 1832.

RACING

Kramer was caught napping at Vailsburg April 27, Krebs making a runaway in the half mile and winning by ten yards. When the start was made Krebs went to the front, and on the backstretch sprinted away from the bunch; he was two hundred yards in the lead the first time around, with Collett holding the other riders back by setting a slow pace. At the bell Kramer set sail, but Krebs was not to be caught. The race for second place was a hot one; turning into the stretch for home Kramer was in the lead, McFarland and Collett at his pedal, but Kramer held his advantage and led McFarland over the tape by half a length; his time, 1:08 4-5.

The two mile professional handicap was won by Collett, who beat out Kramer by inches only. McFarland, Fenn and Kramer were on scratch, and the others were placed on marks from 30 to 240 yards. Collett had 60 yards. Bardgett and Hadfield were leading at the bell lap, with McFarland and Fenn in good positions. Kramer was back in the bunch. At the eighth Fenn shot out, followed by McFarland; the former looked like a winner, but Collett was yet to be counted on. Kramer, coming around the field, became a part of the argument. Four riders crossed the tape on almost even terms, with Collett the winner, Kramer second, and Fenn beat McFarland by less than a foot. Time, 4:29 1-5. In the half mile amateur handicap, which was divided into six trial heats, with two to qualify, twelve riders lined up. Billington was the only one on scratch, and he was unable to get up with the leaders. It was a sprint all the way, Holbrook, a 40 yard man, finishing first; Bailey, 25 yards, second; Folger, 45 yards, third; Ward, 50 yards, fourth. Time, 1:05 4-5.

There were several spills in the ten mile amateur race, Schlee falling in the twenty-second lap; notwithstanding this he captured the prize offered for the greatest number of laps won. Glasson finished first, with Billington second and Georka third. Time, 24:48.

There was an attendance of 3,500 persons.

Walthour's winning streak shows no signs of changing color. Four thousand people saw him defeat Freeman in two straight five-mile paced heats at Atlanta, Ga., April 24. He gained two laps on Freeman in each of the two heats, winning the first in 8:02 3-5 and the second in 8:06 3-5. Lake won the one mile professional; Turville was second.

Again on the same track, April 28, Walthour defeated Leander and Freeman in a ten mile relay contest. Leander and Freeman rode relays of two and a half miles, each following his own motor as he relieved the other. Despite the fact Walthour finished nine laps to the good in the fast time of 16:01.

Not only did Stinson have his disappointment in his foreign racing plans, but Elkes had his misfortune. While engaging in fast

training behind a motor one of Elkes's tires came off, causing him to slide a dozen yards along the track face down. He was carried in a dazed condition to the training quarters and afterward removed to the hospital. When picked up he was found badly cut from head to foot. Fortunately no bones were broken. From last reports it was expected that he would be about again inside a week's time.

On April 13 Demester and Lamberjack on motor bicycles rode a five-kilometre match race on the Buffalo (Paris) track. Demester won by a short distance, covering the distance in 3m. 42s. This works out to a fraction over fifty miles per hour, the distance being 3.1 miles. The power of the motor is not given.

Booth & Manley, who are among the leading cycle dealers of Cleveland, Ohio, are promoting a race meet for Decoration Day. Norman De Vaux, a Toledo dealer, has set a road race for July 4. The Electric Wheelmen, Reading, Pa., in which the local tradesmen are prominent, have fixed a road race for May 30.

Major Taylor will make his first appearance abroad on the Velodrome, Paris, on May 8. In his honor the event has been styled the "Major Taylor Race." The prizes are in keeping, viz.: \$600, \$300, \$160 and \$90, respectively.

Although anxious to meet his old rival, Jacquelin, there is little prospect that he will meet Major Taylor. The French champion is in the employ of one race promoter, Taylor by another—and there you are!

Jimmy Michael landed a winning horse in Paris on Thursday last—the first since he turned jockey. It was a 14-to-1 shot at that.

First Motorcycle Club Uniform.

The Alpha Motor Cycle Club, of Brooklyn, New York, may not be the first club of its kind to organize, but it certainly is the only active motorcycle club at the present writing. Meetings are held every two weeks at 1106 Fulton street, and runs are held once a week. To each of these motocyclists are extended a cordial invitation.

The club has adopted a leather cap and coat, with leather leggings for long tours, as its uniform. The left sleeve of the coat will bear the club monogram, while the right sleeve will have on it the member's club number. Both these insignia will be in cavalry yellow.

In addition to the regular weekly runs the club has called a run to Atlantic City and return for Decoration Day and the day following. The route to the objective point will be via Trenton and Philadelphia. The return will be along the shore and across Staten Island. It has also been decided to enter as a body in the endurance run from Boston to New York on July 4 and 5.

Across France on Motor Bicycles.

Across France on motor bicycles was the recent trip of Jo. Pennell, the well known American artist, and J. van Hooydonk. The joint trip was made from Dieppe to Nice. From the latter point Mr. Pennell, who is an enthusiastic motocyclist, continued on to Florence by a devious route, making his journey one of over a thousand miles. Mr. van Hooydonk rode 801 miles by cyclometer, and was a week en route.

The start was made from Dieppe on March 31, Mr. Pennell having ridden to Newhaven the night before. The first day was wet, and a stop was made at Evreux, about one hundred miles distant, for the night. Next day, which was still wet, they went through Dreux to Chartres for lunch, the roads improving, and finished up at Orleans for the night. The next day Gien, Cosne, was passed, following the Louvre River, and so on to Nevers.

Moulins was the objective next day, and en route they had a peculiar experience. The Allier River had overflowed for three hundred yards, and it meant driving through three feet of water. At Moulins they had their first taste of hills. Entering La Palisse they came upon a very steep hill, and then made for Roanne. Shortly after leaving this town they started climbing Mont Tarrare, which seemed about twenty miles long without a break. A stop was made at Tarrare for the night, thus making the longest run—nearly two hundred miles.

The road was practically down hill to Lyons, where the accumulators were recharged, and the stopping place for the night was Valences. The further journey, via Orange, Frejus and St. Maximin, was marked by heavy climbing and surmounting the Esterel ere they descended into Cannes. The arrival at Nice, about twelve miles from the Italian frontier, was made at noon of the seventh day.

Great Going at Nice.

Ill luck was the order of the day as regards the big automobile meeting recently held at Nice, France, where motorcycles were given a prominent part.

The mile and kilometer competitions were to take place April 10, when a long spell of remarkably fine weather was followed by a storm which broke over Nice at the moment of the trials and lasted for three days. Fast driving was so dangerous on the cement promenade that the competition had to be postponed until Sunday. The two events were combined by having the mile run from a standing start, when the time was also taken for the flying kilometer.

The best performance was that of Osmont on an 8 horsepower De Dion tricycle, who covered the standing mile in 57 4-5 seconds and the kilometer in 33 seconds. The motor bicycle contest fell an easy prey to Williams, on a 3 horsepower Clement, the times being 1m. 12 1-5sec. and 40 3-5sec., respectively. Osmont's time equalled a little better than 62 miles to the hour. Williams's time ran a fraction under 50 miles an hour.

If
You Are
Interested
in
Automobiles



WILL SURELY
INTEREST YOU.

It is published for the information
of the average mortal; no dic-
tionary of mechanical
terms is needed to
understand it.

PUBLISHED EVERY THURSDAY
AT 123-125 TRIBUNE BUILDING,
NEW YORK CITY.

\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.

Big Catches in Maine and New Hampshire.

Judging from the reports which are daily reaching us, the fishing sport this season gives promise of surpassing that of previous years, both in size and quantity. At Belgrade Lakes, Maine, some large catches have been made and also at Moosehead; while the lakes of New Hampshire are this year out-doing themselves both in size and quantity.

The ice left Sunapee April 10, and for the last two weeks land locked salmon, weighing anywhere from four to ten pounds have been landed. Numbers are daily leaving Sunapee and at Newfound Lake the catches have topped everything. A fourteen pound salmon was pulled from the lake on April 18, and in every case the fisherman who has visited this section has been amply repaid.

Lake Winnepesaukee in New-Hampshire is also sending out her quota, and in the numerous brooks and streams trout fishing has just commenced to take on life.

For full information in regard to fishing in New-England, send two cent stamp to the General Passenger Department, Boston and Maine Railroad, Boston, for their illustrated book, "Fishing and Hunting."

Excursion tickets to all principal down East fishing centres will go on sale May 1st.

* * *

Used to Collect Election Returns.

Last Sunday a general election was held in France. Following the methods used in this country by many metropolitan newspapers, the general secretary of the Prefecture of the Seine used bicyclists to carry the returns to the City Hall, Paris. No less than two hundred cyclists were utilized in the work.

The ignorance of many cycle agents on the subject of motor bicycles would be amusing if it were not lamentable that such men are idly neglecting opportunities of cultivating a remunerative branch of their business.

OILERS.

"PERFECT"



25c.

"GEM"



5c.

"LEADER"



10c.

"CROWN"



5c.

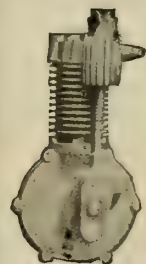
"STAR"



10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs., 240-2 W. 23d St., N. Y.



**DYKE'S
Bike Motor,
\$35.00.**

We sell the castings and working drawings also.

**Bike Motor Coils,
Plugs, Batteries, etc.**

A. L. DYKE, Mfr., St. Louis.

50,000 PAIRS TIRES

READY FOR DELIVERY

AT

\$1.50

\$1.75

\$2.00

Order your tires where
you can get deliveries
and right prices.

EYE-OPENING PRICES ON SUNDRIES

will be mailed to Dealers sending
in their business card.

Write us for

PRICES
on

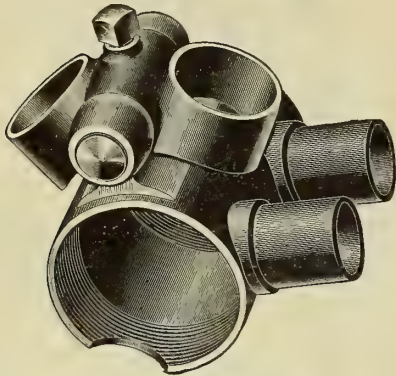
Marsh Motor Bicycles

WE ARE ESTABLISHING AGENCIES.

WILLIS
Park Row Bicycle Co.,
23 PARK ROW,
NEW YORK.

Fauber Hinge Bracket

for Cushion and Spring
Frame Bicycles.

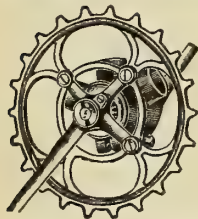


The hinge parts are made of forgings.
Bearing points are wide apart lessening chance for
lost motion.

The hinge pin is a hardened and ground taper pin.
Bracket for 1 1/8 in. and 1 in. tubing fitted to all
styles

FAUBER HANGERS

FAUBER MFG. CO., - Elgin, Ill.



"D. & J." HANGERS



FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY
THE NATIONAL CEMENT & RUBBER MFG. COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

A Complete Bicycle Repair Business, for sale
cheap. GEO. W. YAW, Dowagiac, Mich.

FOR SALE—Motor Cycle \$50.00. Write for
particulars. H. S. THURBER, Marshalltown,
Iowa.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

Upon receipt of 40 cents in stamps, we will mail one
dozen of the MAGIC as a sample trial to any part of
U. S. A. Ask your jobber for it.



HAS A POINT ONLY 1/16 IN. DIAMETER.

Bicycle salesmen wanted to handle the MAGIC as a
side line.

THE MAGIC REPAIR TUBE CO., 248 LARRABEE ST., CHICAGO, ILL.

French Knit Racing Suits.

WE ARE SOLE MANUFACTURERS.

DEALERS WRITE FOR PRICES.

H. J. KOEHLER SPORTING GOODS CO.,
845 Broad Street, NEWARK, N. J.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

THE ARMSTRONG "A" CRANK HANGER



is conceded by competent judges to be the
most perfect in point of design, mechanical
construction, finish and materials used,
that it is possible to produce. Made in
one grade only, the highest. Handsome
in appearance; simple in construction; easy
and positive adjustment. We make the
most complete line of bicycle frame fit-
tings and crank hangers on the market.
Our 1902 prices are low. Write for them.

ARMSTRONG BROS. TOOL CO., Chicago.



G & J TIRES

EMBODY
ALL ESSENTIALS
OF

PERFECTION

Strength,
Durability,
Speed,
Ease of Repair

1902 CATALOGUES NOW READY

G & J TIRE CO.
INDIANAPOLIS - IND.

MAKERS OF
G & J DETACHABLE TIRES
FOR ALL CLASSES OF VEHICLES

The Week's Patents.

698,115. Mold for the Manufacture of Cellular Cushion Tires for Wheels of Bicycles or Other Vehicles. Charles Hird, Woonsocket, R. I. Filed Sept. 11, 1901. Serial No. 75,080. (No model.)

Claim.—1. The improved mold for the manufacture of cellular cushion tires, consisting of a plurality of matrix pieces mounted movably on and supported by each of said blocks, means for holding the matrix pieces to their companion block, and means for holding said blocks together, substantially as described.

698,132. Two Speed Driving Gear for Bicycles. William H. Palmer, Middleton, England. Filed May 7, 1900. Serial No. 15,781. (No model.)

Claim.—1. In a two speed driving gear for cycles an inner sleeve placed inside the sliding toothed sleeve to act as a buffer against the cross bar and a buffer spring placed thereon in combination with the hollow sliding sleeve, the inner pinion, the hub, pinions, sprocket wheel, hollow spindle, operating rod and cross bar inside the spindle, the spring in the spindle, the chain attached to the rod, the retaining nut with rounded edges on the end of the spindle to permit of the free movement of the chain, substantially as described.

698,137. Bicycle Handlebar. Joseph Y. Porter, Detroit, Mich. Filed March 16, 1901. Serial No. 51,463. (No model.)

Claim.—1. In combination with the head of a bicycle steering post provided with a cavity and with two journal pins secured to the head and projecting through said cavity, a pair of handlebars, each of which is provided on its inner end with arched racks, and with an annular row of teeth, a pair of plates adapted to engage over the journal pins and one of which is provided with a double set of annular teeth adapted to engage with the notches between the teeth on the handlebars, and means for securing the plates to the post head with one of said plates engaging in the cavity, both of said plates being removable from the post head, and reversible with respect to the post head, substantially as described.

698,181. Bicycle Brake. Alfred Doney, Pen Argyl, Penn., assignor of one-third to Leonidas W. Morse, Scranton, Penn. Filed Nov. 4, 1901. Serial No. 81,136. (No model.)

Claim.—1. The combination in a back pedaling brake, of a rear wheel hub having an internal braking surface, a fixed polygonal shaft, a non-rotatable brake block mounted on said shaft, means for adjusting said brake block longitudinally of the shaft, a cam faced

collar for moving said brake block into operative position, a sprocket wheel, and two concentrically disposed clutching devices arranged in the same vertical plane, said clutching devices being interposed respectively between the cam faced collar and the sprocket wheel and between the rear wheel hub and the sprocket wheel, and adapted for operation in opposite direction.

698,277. Bicycle Support. Charles Hammond, New York, N. Y. Filed Jan. 3, 1902. Serial No. 88,927. (No model.)

Claim.—1. A support comprising base pieces pivoted to one another and each made to double or fold, and jaws pivoted or swinging on the base pieces.

698,367. Cycle Saddle. John B. Brooks and John Holt, Birmingham, England. Filed Nov. 23, 1901. Serial No. 83,451. (No model.)

Claim.—A pillar attachment clip having washers grooved to receive the framing of the saddle, said washers having resilient extensions also grooved to receive said framing, and means for holding the washers in place.

698,397. Folding Bicycle Lunch Box. John A. Ekelund, Minneapolis, Minn., assignor of one-fourth to Nels A. Johnson, Murdock, Minn. Filed Feb. 25, 1901. Serial No. 48,738. (No model.)

Claim.—1. In a folding or collapsible box consisting of a jointed metal frame having clamping lugs pivotally attached thereto, the sides, ends and bottom of the box formed from cloth or other flexible material, cords or laces for attaching the sides, ends and bottom to the frame, an L-shaped hook rigidly attached to said frame, and means for removably attaching the box to a bicycle consisting of a clamp having a forward extension, and an L-shaped recess in said extension to receive the hook, substantially as described.

Bicycle Parts and Tubing

WRITE US FOR PRICES.

THE STANDARD WELDING CO.

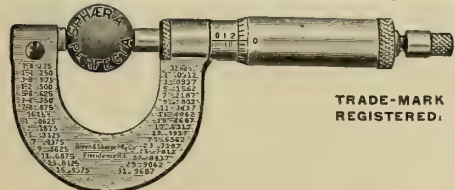
CLEVELAND, OHIO

DIAMOND TIRES

FOR

Carriages, Automobiles and Bicycles.

Made in AKRON, OHIO, by

THE DIAMOND RUBBER COMPANY**STEEL BALLS****WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:**

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

CUT PRICES

AND

**CUSHION
FRAMES****Never go Together.**

Just as Cushion Frame bicycles give the cyclist real comfort so do they give the dealer real profit.

THAT'S WHY

they should and do appeal so strongly to buyer and seller alike. The Cushion Frame not only guarantees the rider against questionable quality but insures the dealer against price-cutting.

HYGIENIC WHEEL COMPANY,OWNERS OF
CUSHION FRAME PATENTS**220 Broadway, NEW YORK.**

Home Office, Philadelphia.

WE BOUGHT THE WHOLE BUSINESS,

13,300 Pairs ...of... New Brunswick Tires

WHEN THE FACTORY WAS DISCONTINUED.

They are Money-Makers. They are selling fast.
You should get in touch with us quick.

Write us about our **\$15.00 BICYCLE.****BOSTON CYCLE & SUNDRY COMPANY,**

J. M. LINSOTT, Manager.

7 Hanover Street, BOSTON, MASS.

HAVE YOUR BICYCLE EQUIPED WITH A

NEW DEPARTURE COASTER BRAKE

SOLD EVERYWHERE BY EVERY BODY

MANUFACTURED BY
THE NEW DEPARTURE BELL CO.
BRISTOL, CONN. U.S.A.

SELLING AGENTS
JOHN H. GRAHAM & CO.
NEW YORK CITY.

SOLAR LAMPS

ALWAYS SATISFY.

Badger Brass Mfg. Co., Kenosha Wis.

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited
California in 3 days

The Colorado Special
One night to Denver

The Chicago-Portland Special
Oregon and Washington in 3 days

The North-Western Limited
Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail
Fast train to head of lakes

The Peninsula Express
Fast time to Marquette
and Copper Country

NO change of cars. The best of everything. Call on any agent for tickets or address

481 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburg
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.



The Authority of the Cycle World

RELIABLE NEWS

ON ALL CYCLING EVENTS

Interesting & Comprehensive.
ADVICE TO RIDERS.

Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Through all Bookstalls and Newsagents or from the Publishers

ILIFFE & SONS Limited,
3, St. Bride Street, London, E.C.



Through Train and Car Service in effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car and Dining Car to Syracuse and from Toledo to Chicago.
"North Shore Special" has Dining Car to Albany, and from St. Thomas to Chicago. Both trains run daily and are made up of the most modern and luxurious vestibuled Sleeping Cars.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage Them"

is the very book you need.

Every page teaches a lesson. Every illustration "speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.

If You are Interested in Automobiles, THE MOTOR WORLD Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday
at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis



Via Rockford, Freeport, Dubuque, Independence, Waterloo, Webster City, Fort Dodge, Rockwell City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars, free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R.R.

LOWEST RATES FAST TRAIN SERVICE

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all Through trains.

For tickets and information apply at any principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, May 8, 1902.

No. 6

PHILADELPHIA'S PARADE

Dealers Draw Record-Breaking Turnout— And the Next day the Repair Shops!

However the outside world may have viewed the innovation of baldly parading "shop" before the public gaze, Philadelphia took to it warmly and made of the run promoted by the Cycle Dealers' Association of that city a prodigious success.

The event occurred on Sunday last, and resulted in the greatest turnout of bicycles ever seen in the Quaker City—4,500, according to several estimates. It was a picturesque display, and, of course, embraced every type of machine, from motor bicycles to the decrepit creaks without nameplates and of uncertain vintage, ridden, of course, by all sizes, shapes and conditions of men, with medals and without them; some two hundred women were also in line.

The run was divided into sixteen divisions, one each in charge of the following members of the Dealers' Association: J. S. Gibney, Theodore Tweston, James McGrath, F. S. Stockwell, George Watts, George Donnelly, W. A. Koch, Walter Dalsimer, Morris Levine, L. S. Hall, Joseph Landshutz, W. D. Rhodes, Albert H. Smith, Robert H. Flugfelder and L. Shoueman. William Trafford was the chief marshal, with Miss Jennie Meister, and these aids: Edwin L. Hoffman, Edward L. Zeigler, Charles Haight, Thomas Mahoney, William Veas, Joseph Lehman and Charles Bradley.

The parade formed in columns of twos on the north side of the City Hall and proceeded up Broad street to Diamond, to River Drive, to Wissahickon, to the stone fountain, counter-marching to the Fairmount Park Inn, where luncheon and music were provided.

The exact number of riders participating is not known, but it can be judged from the fact that the committee in charge ran out of souvenir badges. These were pretty little bronze medals, $2\frac{1}{2}$ by $2\frac{1}{2}$ inches, consisting of a shield, lettered in bold relief, surmounted by a winged wheel hung from narrow blue and yellow ribbons. The committee had 4,500 of these medals, and all were distributed before the start.

After luncheon the parade was supposed

to return to the starting point, and it did so, but in greatly diminished numbers. Three-fourths of the participants having obtained their souvenirs and their luncheon, "silently stole away."

Writing from Philadelphia on Monday, E. H. Rosenberger, the press agent of the affair, in a note to the Bicycling World, adds: "I wish you could have seen the repair shops as I saw them to-night."

A. B. C. Stocks Less Active.

For the week ending May 3 trading in American Bicycle Co. common and preferred was fairly quiet, only 6,980 of the former changing hands, and 5,000 of the latter. Prices were maintained on even lines, common ranging from 6 to $7\frac{7}{8}$, closing at $6\frac{3}{4}$, and preferred from $22\frac{1}{2}$ to $24\frac{1}{2}$, closing at 23. This week's trading for Monday ran to 1,300 common at $6\frac{3}{8}$ to 7, and 5,000 preferred at $21\frac{1}{4}$ to $22\frac{1}{4}$. The closing figures were 7 and 22, respectively.

Tuesday's market saw more activity, with a net gain of $\frac{1}{8}$ on common and 1 on preferred. Amounts dealt in were 2,100 common at 7 to $7\frac{1}{2}$, and 1,900 preferred at 22 to $23\frac{1}{4}$.

Tire Deal on Again?

It is "in the air" that one of the most important tire factories in the trade is likely to be taken over by a rival. Reports to the same effect have been circulated before, but nothing came of them, and in the present instance verification of any kind is impossible. This time, however, it is a fact that a sudden and unusual order to take inventory was issued.

Capital Increased to \$2,800,000.

The American Tube and Stamping Co., of Bridgeport, Conn. (which succeeded to the business of the Wilmot & Hobbs Mfg. Co.), has filed a certificate of increase of capital stock from \$1,000,000 to \$2,800,000. The fee paid into the State treasury for the increase was \$1,800.

Duty Reduced to 10 per Cent.

The Australian cycle trade has finally won its point. The government, which proposed a duty of 15 per cent on cycle parts, has agreed to the reduction to 10 per cent which the trade favored.

DETACHABLE LITIGATION

G & J Tire People to Force the Fighting— Two Trades Affected.

It is definitely known that the G & J tire patent is about to be brought to bear on several alleged infringing tire makers.

Particulars are not ripe for publication, but it is understood that papers in the several cases have been drawn and are likely to be served at any moment.

While the action of the G & J tire people may cause a flurry in the cycle trade, it is likely to cause something of a sensation in the automobile industry, since it is the intention to bring proceedings also against the importers of the foreign cars which have been brought into this country fitted with certain brands of foreign-made detachable tires which are claimed to infringe the G & J rights.

Williams Succeeds Young.

Owing to ill health, A. B. Young has resigned the secretaryship of the Los Angeles Cycle Board of Trade. W. G. Williams has been chosen as his successor. The organization is now considering the case of a member who is violating its rules by unloading job-lot bicycles at cut-throat prices.

Two Dealers in Milford Fire.

In the big fire which wiped out the business portion of New Milford, Conn., the list of losers includes two bicycle dealers, W. N. Noble and P. M. Cassidy (Fontella Cigar Co.) The loss is not yet known.

Thomas With \$500,000.

E. R. Thomas Motor Co., of Buffalo, was incorporated this week, with capital of \$500,000. Directors, E. R. Thomas, Frederick Armstrong and A. B. Shultz, Buffalo.

Grips go up in Fire.

The Detroit Leather Goods Mfg. Co., Detroit, Mich., makers of leather grips, suffered a total loss by fire last Saturday.

The Lobdell rim works, at Marietta, Ohio, will be removed to Onaway, Mich.

BOOMED BICYCLE BUSINESS

How Car Strike Helped Things in 'Frisco— Board of Trade After Price-Cutters.

San Francisco, Cal., April 30.—The full week's tie-up of the city's street railway system caused by the conductors' and motor-men's strike is at an end, but the unparalleled rush of business it afforded the cycle trade is yet unabated, and dealers and repair shops are still working overtime to accommodate customers. Thousands of wheels that had been unused for several seasons were resurrected from storeroom accumulations as friends in need and friends indeed, and the reassociation of these abandoned friends of a year or so ago and their respective riders seem to have rekindled the oldtime warmth of clinging friendship, and now, as in former times, the city's streets are wonderfully featured with bicycling effects.

C. H. Schlueter, manager of the bicycle department of the wholesale hardware house of Baker & Hamilton, stated this week that although last year's business was rated as exceedingly satisfactory, the record this year to date shows a little over one thousand more wheels disposed of than was the case at the end of April last year.

And across the street, at that other big wholesale house, Dunham, Carrigan & Hayden Co., the bicycle manager, E. E. Stoddard, carefully turned to his memoranda record and said: "We've sold more than three thousand bicycles than were sold at this date last year."

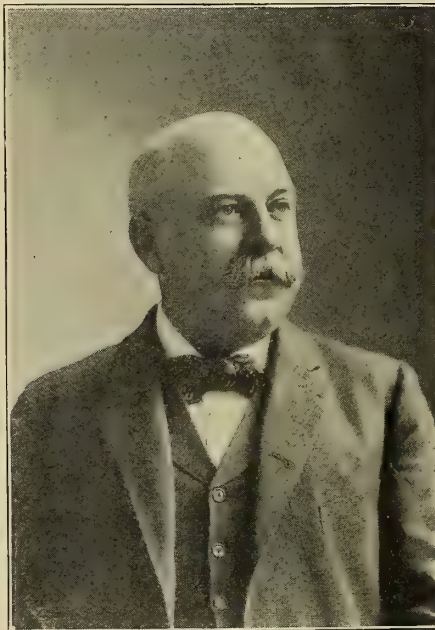
The San Francisco Cycle Board of Trade, which has been a tower of strength here on the Coast, now has two price-cutting cases on his hands. The offenders are both members of the organization, and their "crimes" were fully discussed at the April meeting of the Board. Action was postponed for one month. The penalty is a \$10 fine for the first offence, expulsion for the second. The burden of punishment, however, usually falls on the houses who sell to the price cutters. The members of the Board usually have a way of ceasing to buy of them. In the two instances in question these sources of supply have been located. At the April meeting officers for the ensuing year were re-elected, as follows: Joseph Holle, president; G. W. Peyton, vice-president; J. T. Eames, secretary, and J. H. Cornell, treasurer.

A rider of an American Cycle Mfg. Co. motor bicycle has had pretty good evidence of its power. In striking a steep, sandy hill the surface was so loose that, until the rear tire could get a grip, for a moment the bicycle stood still while the rear wheel revolved and threw sand in a constant stream.

By order of the German Imperial Cabinet, a cycling section is to be formed in connection with each corps of the German army.

The Man and His Motors.

If the question as to who built the first light and powerful gasoline motors in this country was raised there would be many claimants and the task of awarding the chaplet would be no easy one. If the more essential point was raised as to who was the first American manufacturer having the foresight to enter into their manufacture on a large scale there could be but one name given the palm of precedence, that of E. R. Thomas, of Buffalo. Appreciating the future, and with all the energy that is characteristic of the man, Mr. Thomas, like all good students, journeyed to the fountainhead of the indus-



try, France, and studied the actual conditions on their native heath.

Not only was the study made from the standpoint of conditions as found, but actualities were taken hold of by the purchase of a motor tricycle, then so popular abroad. The experiences gained confirmed previous acumen. Coming back to the land of his birth, Mr. Thomas at once set on foot plans and projects, and, backing his faith with tireless energy and capital, at once started making tools, jigs and other appurtenances to turn out motors in quantities.

From this grew the present business that embraces motors in a wide choice of sizes, from 1½ I. H. P. to 8 actual horsepower, giving a choice suitable to an extensive variety of uses. No better illustration of the growth of the business, even from a comparatively large beginning, is shown, than in the recent erection of a two story factory, the old plant, although of goodly proportions, having been outgrown. In addition to the full equipment of jigs, etc., used in making motors on the interchangeable plan, it has always been the policy of Mr. Thomas to keep his machine tool equipment up to the highest standard of selection and excellence.

Advertising helps the small business grow large, and prevents the large business from growing small, observes Printers' Ink.

POLICEMAN'S OPINION

The Sight of a Motor Bicycle Leads him to Unbosom Himself.

About the last thing that was looked for during the brake or stopping tests on Riverside Drive, this city, last week, was a motor bicycle. It came along, however, just at a time when there was a slight wait before the next motor vehicle came along.

The regular sound of the exhaust gave many of the bystanders the impression that it was an automobile that was approaching. When it was seen that it was only a bicycle it received all the more attention on that account. It was going at a good rate of speed—certainly a shade over the legal rate of eight miles an hour, and was in the hands of a man who was thoroughly at home on it. As it passed the group of bystanders all eyes were turned to it, and they followed it until it disappeared in the distance, which it did in a remarkably short space of time.

Two or three cyclists, a pressman, and one or two automobilists formed a group, and they began to discuss the machine. Various opinions were expressed regarding the merits and demerits of a bicycle equipped with a motor. A policeman sidled up to the group.

"Them automobile bicycles are great things," he remarked confidentially to the pressman. The latter nodded assent.

"Would one of them carry me down to Coney, I wonder?" was the next venture.

"Sure! Why not?" was the counter question.

"Well, it might break down," ventured the policeman. "But if it didn't what a great thing it would be. Automobiles is all right for them as has money. But that's the poor man's automobile, and as soon as I think they got them right I want one."

Five Years Without Adjusting.

"There's one bicycle I'm sorry to see swept off the market," remarked W. L. Dudley, the cycling editor of the New York Times, to a *Bicycling World* man the other day, "and that is the Sterling. I don't think there was ever a better bicycle built. I have had one for nearly five years, and while it may need touching up, it is as strong and as easy running to-day as it was at the time of its purchase. This Sterling of mine has something of a record, too, which I believe is, in a way, quite remarkable. Its bearings have not been cleaned or adjusted in the nearly five years I have owned it. During two successive seasons I rode it in the sandy districts of New Jersey, and again in Georgia and Florida, where the sand is as fine as powder. On my return from the South the first time I endeavored to clean the bearings, and in the effort broke the spanner and gave up in despair. Since then I have not touched them, save to occasionally inject a few drops of lubricating oil. Despite the fact, the bicycle runs as easily and the wheels balance as perfectly as if they had been adjusted but yesterday."

ASSEMBLED BICYCLES

Output is Still Considerable—Taplin Ventures an Estimate of the Number.

G. A. Taplin, of the Park City Mfg. Co., Chicago, was among the trade visitors in New York last week. He had just returned from a tour of New England, where he had succeeded in establishing the D. & J. crank-hanger in a number of places where it had not been used before.

"We have a pretty good hold in the West," he said, "and are for the first time making a serious effort to extend our business in the East. We have no complaint to make with the season's demand, having shared quite generously in the trade's new found prosperity, which I find to be quite general. The number of factories that have been working overtime and been unable to keep pace with their orders is more numerous, I think, than is generally supposed."

Asked concerning the volume of the assembling trade, about which much doubt has existed during the past two years, Mr. Taplin stated that he did not think it had diminished to any very great extent. While a number of assemblers have, of course, been swept out by the ebbtide, others have taken their places. Many of them are little known, but in the aggregate they account for a goodly number of bicycles in the course of year. In Buffalo, for instance, there is a number. One of them, who uses the D. & J. hanger and who built 200 bicycles last year, is this season marketing some 500. In Detroit Mr. Taplin had sold at least ten different parties who were engaged in the assembling trade, which he acknowledged is of larger proportions in the West than in the East.

Two years since it was estimated that not less than 150,000 assembled bicycles were being turned out. Asked whether in his opinion and experience the output had decreased materially, Mr. Taplin seemed in doubt for a moment. Pressed for an estimate, he finally reckoned the 1902 output of assembled bicycles as certainly more than 100,000, and possibly touching 125,000—figures that will doubtless astonish not a few in the trade, who imagined there was little health left in the assembling business.

Switzerland's Imports.

During last year Switzerland imported 13,088 cycles, valued at \$543,600. These figures show an increase in numbers and a decrease in value, compared with the import of 1900, which amounted to 12,923 cycles, valued at \$569,000.

Italy's Cycling Population.

According to returns just issued, there are now 142,918 registered cycles in use in Italy, as compared with 124,861 at the end of 1900. Turin heads the list of provinces with 20,753 bicycles.

Why They are Pleased.

There is one class of men in the cycle trade which has no complaint to make on the score of lack of business. That is the repair men.

Any one who has any doubt as to the genuineness of the present revival has but to go among them and hear their opinions of it.

They are, almost without exception, working "double tides." Regular customers account for only a part of their time. There are also the irregulars and the transients. Both are out in full force, and every week sees a still further increase in their ranks.

"Am I busy?" repeated one man, in reply to the question. "Well, I should say I was. I work here at the bench from 6:30 in the morning until 10 at night, and then it is impossible to come anywhere near cleaning everything up."

An active riding season invariably fills the repair shops with work; and this irrespective of whether the wheels are poor or good ones.

Even a good machine needs attention at times, and punctures are no respecters of either persons, machines or tires. They visit the just and the unjust alike, and nowadays the repairmen get the bulk of the work of repairing them.

Trouble With Spark Plugs.

With those who have had experience with foreign made spark plugs of the De Dion type the most frequent criticism has been the difficulty of repair, owing to the method of fixing the centre pole by cementing it in place. Nearly all plugs made in this country have avoided this objection by holding the pole in place by means of an outer locking cap which screws onto the outer pole end. This cap also serves as part of the necessary contact in attaching the secondary wire.

In making the Minerva motor, that motor which has jumped into such complete popularity abroad that there can be said of it that it has become a standard fitment with bicycle manufacturers who are making motor bicycles, the cementing method has been done away with it in the 1902 spark plug.

Not only is the plug cementless, but expansion is provided for by a coil spring. The porcelain is unusually massive, and the centre pole is fitted with a stout pin of platinum. The negative wire is also much stronger than usual. This latter ought to prove a good feature in preventing a tendency to break off should readjustment of the distance between points become at any time necessary.

Where Bicycles are not Bicycles.

A peculiar question has come up in London. In that city's famous Hyde Park cycling is limited to certain hours of the day. On the other hand, automobiles can enter at any time. As motor bicycles come in the latter category, a rider of one of these can enter the park at any time.

The anomalous position in the matter that has been pointed out is, what is the position of a motocyclist who enters the park in the hours which bar out motorless cyclists, and before leaving finds he is out of gasoline and has to pedal?

RETRYING CASE

Jury Chosen in International Suit—English vs. American Workmen Involved.

The suit of Brown Bros., of London, England, against George J. Capewell, William G. Allen and Charles Flint, of Hartford, to recover \$175,000 went to trial on Tuesday morning in the United States Court at New Haven, Conn., before Judge Platt and a jury. The action was tried in October, 1900, in the same court, with Judge Townsend presiding. After listening to the evidence for three weeks the jury disagreed. The suit is based on the claim made by complainants that certain automatic machines for making bicycle spokes did not perform the work the defendants represented they would.

In their complaint Brown Bros. allege that in 1898 the defendants agreed to furnish a plant for making bicycle parts. Included in the plant were four machines for making bicycle spokes. The price agreed upon was £12,500. Of that amount £10,000 was to be paid for the patent rights and the balance for the machines.

It was stipulated that the machines were to be capable of turning out 120,000 gross in 270 working days during the first year of operation. The defendants represented to complainants that the profits from the operation of the machines would be very large. It also represented that the plant in question was perfect in every respect, and that it would do all that was specified in the contract.

It is now alleged that the machines will not perform the work for which they were made and purchased, and that the most expert mechanics in England have been unable to make them serviceable.

In the previous trial the defense laid the fault to the British workmen, bringing American operators to testify that they had had no trouble in making the machines perform their functions.

Beauty Spots in New England.

At this season of the year many people are making plans for their summer vacation. Some will return to their old haunts, while others will seek new resorts.

For scenic beauty Northern New England has no equal, and one unacquainted with this section in detail will gain much information as to the topography and beautiful views obtained from various points by a perusal of the numerous pictures published by the Boston & Maine Railroad. They are issued in five portfolios, made up wholly of halftone reproductions of suitable size to show up the scenery to proper advantage. Each book contains thirty or more scenes, and cover mountains, seashore, lakes, rivers and historic spots, and are mailed upon receipt of six cents for each book. A catalogue of descriptive literature covering the various sections of New England will be mailed free by the Passenger Department, Boston & Maine Railroad, Boston.



Confirmation strong as proofs of holy writ.

We get confirmation every day of the truth of our old saying, "A National Rider Never Changes His Mount." As one of our customers told us some time ago, "The trouble with a National is, it never wears out." The following letter is a good example:

NATIONAL CYCLE MFG. CO.,
BAY CITY, MICH.

BLUFFTON, IND., March 15, 1902.

GENTLEMEN:—I have a National bicycle which I bought new in 1897. Its number is 4556. The frame of the wheel is about as good as new, and I am fixing it up so as to last another season or two. Will you please send me *at once* two cones for hind wheel, one cup for crank hanger, one seven-tooth sprocket wheel, felt washers for crank hanger and hind wheel. Also send me six dozen anti-rust, three or four ply spokes.

My wheel has worn remarkably well, and I can have almost a new wheel by a little expense. Send bill with order and I'll remit at once.

Respectfully,

F. C. WHITCOMB, PRINCIPAL,
Bluffton High School.

Decide Today

Upon having your machines
equipped with

FISK TIRES



Because in so doing you give your customers the best and thereby satisfy them.

FISK TIRES are the highest grade.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.
SYRACUSE,
423 So. Clinton St.

SPRINGFIELD,
40 Dwight St.
BUFFALO
28 W. Genesee St.

NEW YORK,
83 Chambers St.
DETROIT,
252 Jefferson Ave.

PHILADELPHIA,
916 Arch St.
CHICAGO,
54 State St.

WASHINGTON,
427 10th St., N. W.
SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTOCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00
Single Copies [Postage Paid] . . . 10 Cents
Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, MAY 8, 1902.

Bicycle Made Ridiculous.

On Thursday last, in order to give the aldermen an ocular demonstration of the brake power of the various types of conveyances, and of motor vehicles in particular, the Automobile Club of America (which is really the Automobile Club of New York only) caused to occur a series of electrically timed stopping tests on Riverside Drive. The bicycle cut a figure in the performances, and was really made a butt for ridicule, although none has really grasped the fact.

At a speed of 9 1-3 miles per hour a 2-000-pound automobile was brought to a stop in 5 feet 11 inches, a four-in-hand coach in 25 feet 11 inches, a victoria carriage in 17 feet 7 3/4 inches, a bicycle in 8 feet. At a speed of 20 miles an 800-pound steam carriage was stopped in 58 1/2 feet, the four-in-hand in 90 feet 10 inches, the bicycle in 61 1/2 feet.

The men who rode the bicycles were members of the police squad. The ridiculousness of their records as bases of comparison lies in the fact that none of the bicycles were equipped with either hand brake, coaster-

brake or brake of any other kind. The "cop-per" who came to a stop in 8 feet while moving at a nine-mile pace simply jumped off his bicycle and forced it to a stop by his own weight. The one who required 61 1/2 feet to stop at a 20-mile gait "braked with his foot"—that is, gingerly stuck his foot in the front forks and pressed on the tire. The only wonder is that he escaped without a broken ankle.

From the cycling standpoint, the test was a screaming farce. With a coaster-brake the wheelman crawling at nine miles per hour who cannot stop his bicycle within two feet should be run off the road by his fellows. At twenty miles he should as easily stop within twenty feet, and skid nearly half the distance at that. It is likely that at the Metropole Cycling Club's coasting contest, which occurs on Saturday next, an effort will be made to prove these assertions.

Meanwhile, if the Automobile Club's demonstration proved anything, it proved that the bicycle police should have their wheels equipped with coaster-brakes, and quickly.

Chance for Parts Makers.

We have before pointed out the possibilities that lie before the bright and far seeing maker who will come into the market with fittings for the construction of motor bicycles.

The demand is here and it is positive. That it does not make itself more strongly manifest is due primarily to the fact that it is not fostered by those who are in a position to take advantage of the sub-current of conditions. They are not keenly alive in the premises.

Take bicycle makers and makers of frame fittings as an example. Not one of them but have patterns or dies for making frame connections and jigs for machining. Frequently these are now idle and written off as non-productive. To say that these cannot be used because they do not want to follow the practice that prevails abroad, and simply attach a motor to standard frame lines, is not acceptable; it is special pleading.

Given the various angles that can be found in going through past bicycle designs of any factory of fairly long standing, a thoroughly clever designer can utilize some of them to turn out a design in motor bicycles that will be pleasing to the eye and at the same time distinctive in its lines.

This lack of appreciation of what can be done with the means before us marks the difference between the state of the industry

here and abroad. Relative to England, this is particularly true. In that country not only are complete machines being made by nearly every recognized bicycle manufacturer and by new concerns devoting themselves to that work alone, but every parts maker advertises fittings.

The First Race and Pitman's.

The Brockton (Mass.) Enterprise challenges the Bicycling World's assertion that Will R. Pitman did not win the first bicycle race in this country. It affirms that the race was run in Brockton. Of course, we are well aware that Pitman won his first race in that city, and that his failure to deny it has encouraged the newspapers to generally credit it as the first race. But despite the fact that Pitman is one of those good fellows whom it is hard to criticize, goodfellowship and regard for the man should not be permitted to falsify cycling history.

The early records are difficult of access, but they make perfectly clear that in 1876 David Stanton, the then English professional champion, visited this country and won several races. On April 17 of that year he was beaten by W. M. Wright, a "gentleman amateur," of New York, and one of Pitman's friends, who competed under the name "D. Butler." In January, 1878, at Gilmore's Garden, a five mile race "for \$300 and the championship of America" was won by William De Noille, his rival, Charles Dusenberry, finishing first, but being disqualified for fouling.

On May 28, 1878, more than a month before Pitman won his race at Brockton, what the American Bicycling Journal described as "really the first amateur bicycle race in this country" was run by the Harvard Athletic Association at Beacon Park, Boston. The distance was three miles. There were five competitors, and C. A. Parker, '80, won in 12:27.

Pitman is a frequent visitor to the Bicycling World office. He has several times inspected its library containing these facts, has acknowledged the corn on various occasions, and it is doing him a kindness to refrain from publishing his reasons for permitting the canard with which his name has been so long been permitted to circulate without denial or protest.

For Comfort in Cycling.

Herbert Spencer positively declares, "enjoyment is a duty," and every cyclist religiously owes it to himself to get as much

pleasure and comfort out of cycling as the laws of nature and the provisions of man allow.

Therefore it behooves him to get the full measure of his enjoyment by having his wheel equipped to that end. Coaster brakes and cushion or spring frames are among the requisites to this end. Next to pneumatic tires they are as essential to comfortable and efficient wheeling as are the frames, bearings and saddles of the wheel itself.

Those who have never ridden a bicycle furnished with these excellent devices cannot conceive the economy of labor and accession of personal comfort and assurance conferred by their employment. Life is altogether too swift and short to overlook any of its amenities.

Using the Window.

Any man in the business who possesses a motor bicycle and who does not keep it in his show window when it is not otherwise employed is a fit candidate for the head examiners.

As an attraction, the cycle trade in its twenty-five years of existence never had anything like it. We do not except even the pneumatic tire.

We have yet to see a store window containing a motor bicycle which was not surrounded by a crowd. We have yet to see a window, containing we care not how many other articles, in which the motor bicycle was not the centre of attraction and the target of remark. In its drawing power it easily rivals the fly and molasses combination.

The dealer who does not appreciate the fact and make the most of it is lacking the first element of the shopkeeping instinct. And "making the most of it" does not merely mean displaying it in the window, but should also inspire printed placards heralding the no-hills-no-headwinds or other advantages of the bicycle and inviting the spectators to "call within" and see or try the machine in operation, or to at least receive catalogues. It is in that way that converts and sales are made.

Philadelphia's Success.

Because we questioned the advisability of baldly parading "shop" before the public and intermixing business and sacred concerts, the press agent of the Cycle Dealers' Association imagines that we pooh-poohed the parade on Sunday last, which proved such a prodigious success. The gentleman is even inclined to wax sarcastic. However, we did

not pooh-poohing. We simply suggested that it unusually unwise to baldly talk "shop" in promoting affairs of the sort.

At the time we stated that Philadelphia is peculiar in many respects, and because of the fact the programme outlined might achieve the results aimed at. We had in mind that Philadelphia is the one city in the United States in which 50 cent baseball was an utter failure, while with the 25 cent admission it proved a glorious success. We were inclined to believe therefore that the combination of souvenirs and free lunch would draw out the Quakers, and our belief held true. We question whether another such turnout is possible in any other city in the country. But we are not criticizing the Philadelphians.

We are firm believers in the doctrine "do something." The Quakers have done it, and scored such an emphatic success that he would be narrow indeed who would withhold commendation and congratulation. We trust that the other affairs which the Dealers' Association has in hand will be as successful.

Seven Days or Thirty.

"The monthly is supplanting the weekly for the reason that a trade paper can no longer pose as a newspaper, and the information it contains must necessarily be in the nature of a review or reference book," guilelessly says a publication—a monthly, of course—devoted to the dissemination of trade puffs and cut-price ads.

Following the same line of sophistry, the monthly magazines should ultimately crowd the daily newspapers to the wall.

But, some way or other, we fancy that there will ever be a few millions of people who will want news while it is news, and that of the number a few hundreds of thousands of live business men will prefer to have the news of their trades—which dailies will not touch—every seven days instead of every thirty.

Monthly trade journals should stick to their legitimate field, the printing of trade puffs and "essays"; it's about the only excuse for their existence.

The world turns over every twenty-four hours, and in thirty days, as we once before remarked, a man or event may be born and may die and be buried and forgotten.

Go Into the Byways.

One of the pleasures of cycling that but few riders seem to realize is that of seeking

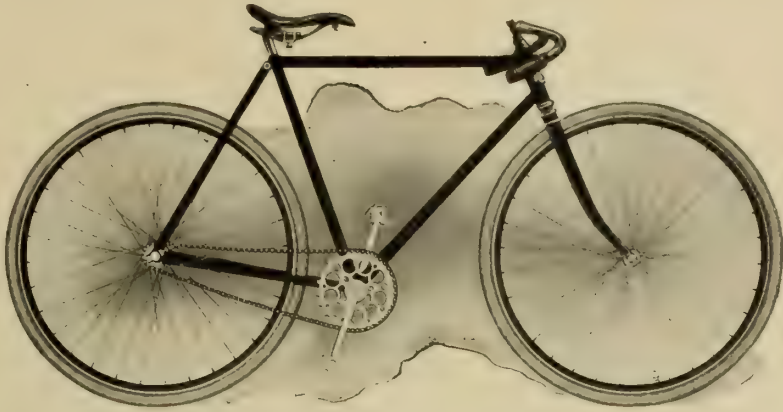
out roads and bypaths away from beaten paths. Whether unconsciously or otherwise, cyclists forcibly remind one of sheeplike habits in their proneness to go back and forth over well defined routes that are common to all. If riders of bicycles will strike off the main travel lines and seek out roads but little used they will be surprised at the many charming spots to be found.

It is true that the surface in these thoroughfares is not of the boulevard order, but at a pace that permits full enjoyment of the surroundings the true pleasure seeker can pick out a track that will be found fairly comfortable, and the hunt will give added zest to the outing. Delightfully quaint scenes are constantly coming into view, and delightful bits of unsuspected landscape are found tucked away in these corners that have the added charm of being unusual in the general riding experience.

Just as one feels buried from all civilization, a slight rise in the road brings into view some settlement either near by or off in the distance. Then there are charming views across meadows, fields and pastures, with patches of wild flowers or dotted with ruminants. Again the track leads through deep and cool woods that remind one of the descriptions of Fenimore Cooper. A turn of the road brings the rider to a farmhouse, with its atmosphere of repose accented by the drone of bees or the clear cut notes of the chanticleer. Every new vantage point only strengthens the plea that the more thoroughly cyclists explore the surroundings of their city or town homes the more delightful will they find the ownership of a bicycle.

One of the publications that endeavors to mix bicycles and automobiles and permits price cutters to advertise without restraint prints a testimonial from a subscriber who narrates that he "saved" more than \$100 by following the ads. in the particular journal. It is safe betting that of the amount expended the legitimate and high grade trade received nothing.

It has been well said that debtors may be classed under two kinds, either the honest or the dishonest. It is certain that while the former will rarely be engaged in anything approaching unfair dealing, by cutting prices in particular, the habitual cutter who slaughters everything he can lay his hands on, whether job or regular goods, is sure to be more or less of a dishonest character.

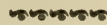


MODEL 76 PRICE \$40.00

Orient Bicycles

KNOWN THE WIDE WORLD OVER.

WRITE FOR HANDSOME NEW CATALOGUE



APPLY FOR AGENCY

WALTHAM MFG. COMPANY, WALTHAM, MASS.

Predominating Features in "BUFFALO, SR."

BOSTON HEADQUARTERS, 243 Columbus Ave.

NEW YORK HEADQUARTERS, 29-33 West 42nd St.

"BUFFALO, SR." AUTOMOBILE.



Model 7. Price, \$800.

6 BRAKE HORSE POWER MOTOR.

**For PROFESSIONAL MEN,
BUSINESS MEN,
and FAMILIES.**

LONG WHEEL BASE

Makes Easy Riding.

LARGE BODY.

Luggage Box for Touring.

HUNG LOW.

CAN'T OVERTURN.

Will Climb 25% Grades.

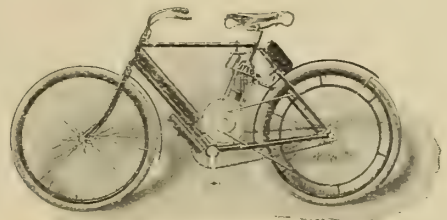
SIMPLE TO OPERATE.

ALWAYS READY.

Includes modern features usually
found on \$2000 car.

DOUBLE ACTING BRAKE.

"AUTO-BI" MOTOR BICYCLE.



Model 4. Price, \$175.

2½ H. P. Motor; belt-driven,
which is the

**Favored Transmission
FOR MOTOR CYCLES.**

THOMAS WORLD RECORD MOTORS ONLY; THEY ARE BEST.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, 1200 Niagara Street, Buffalo, N. Y.

GIVING INSTRUCTIONS

Factory Employee Cites Striking Instances of Effects of Verbal vs. Written Orders.

"In my experience in various establishments and under all sorts and conditions of superiors I have found the most marked difference in the methods of giving orders," says a contributor to the American Machinist. "A few of these points of difference the establishments were responsible for, but as a rule the manner of giving orders is left entirely with the individual who is giving them. I have heard somewhere that 'A problem well stated is half solved.' All we do in shops and drawing rooms is to solve problems, and how much easier that problem would be if those charged with their statement would do it more clearly!

"In my experience I have met with but one establishment that had rules governing such matters and enforced them. In this place no one could start a piece of work of any kind without a written order from his superior stating fully and clearly what was wanted. The superintendent of that place could not come into my shop and tell me he wanted certain work done. He would write what he wanted. I was expected to preserve all such orders, and likewise could not tell one of my men to start on certain work. I had first to fill out a time slip, stating on it what work he was to do. These slips measured 4x6 inches, so that a rough sketch could also go on it. The first work in the morning was to distribute the time slips to the men, and they would be upheld in refusing to start work until they received them. This may seem to some as an expensive and needless piece of red tape; it did so to me at first, but since leaving there I have wished it had been installed in every place where I have since worked. How many disputes it would prevent, and what an amount of friction it would eliminate from the conduct of the business of most works!

"In contrast with such a system, take a few personal experiences in other places. A foreman once brought me a connecting rod and ordered me to weld it out immediately three inches longer. It came back, as it was wanted but two inches longer. This the foreman declared he had ordered me to make it, but I was equally positive he did not. There being no written order to settle the dispute, it was settled, as so many such are, by my looking for another job.

"In another place I was connected with the superintendent would send his office boy down with verbal orders for me to get out so many pieces of number, say, 1377. Any one who has handled work in a factory where all the pieces are identified by numbers only will appreciate how one feels when taking such an order. It might have been 1477 or 1367 by the time the boy had delivered it, and such cases did occur. Yet

the superintendent thought me a crank when I asked for a written order.

"My drawing room experiences have been the worst of all in this respect. I never feel that a drawing is finished until I see the machine built. They are always remembering something else that is needed on it. Of course, a certain amount of this is almost impossible to eliminate, but I think the greater part is. I was once given a bundle of about twenty large drawings that contained all the details of a large machine and told to see if it was possible to hit a certain auxiliary on it. I was given only the work required of the auxiliary as my guide in the design. At the end of a week I had the design ready for the chief draughtsman's inspection, and he condemned it at a glance.

"Your wheels stand too high," he said.

"I replied that they did not interfere with anything.

"Oh, yes, they do," he said; "there are two beams in the ceiling, right above where the machine goes, leaving but eighteen inches between them and the top of the housing. Your machinery must come below those beams."

"This was news to me, and meant another week's work getting out a new design, only to have it rejected because it had one more gear in the train than he wanted. No limit had been set before as to the number of gears. A third design suited, but when I started to detail it I was told to limit my wheels entirely to the patterns in stock. As this was a heterogeneous collection, such as you find in a general machine works, it gave me more trouble to get the desired results with the stock gears than anything else I encountered on the problem. The case ended by my making a fourth design, from which the machine was built. Now, it looks to me as though the whole problem could have been clearly stated at the start, instead of in instalments, and one design made that would fulfil the conditions.

"My recommendation for giving orders for either shop or drawing room is, first, let them be written; it is very easy to put down a memorandum on your scratch pad, and thus avoid trusting to memory for sizes, etc.; second, clearly define what you have already settled in your own mind as to what is to be done and the methods to be used in doing it; such matters as are not so stated to be worked out by the person taking the order.

"Such a method, while requiring a little forethought, would expedite matters greatly in all shops and drawing rooms where it is not now in force."

Recent Incorporation.

New York, N. Y.—Manson Bicycle Co. Incorporators, G. W. Manson, G. W. Clark and G. E. Clark, all of New York.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

FOR EMERGENCIES

How one big Factory Provides for the Accidents That "Will Happen."

The Fairbanks Scale Co. provides for shop accidents in a rather unusual fashion, and one that may convey suggestions to other manufacturing establishments.

They allow one of the local druggists to furnish a suitable cabinet and keep it supplied at his own expense with a few simple remedies, and in return for this he is permitted to have his business card prominently displayed on the outfit. The case contains absorbent cotton, a few rolls of bandages of different widths, adhesive plaster, particularly of the waterproof kinds, a considerable quantity of baking soda for burns, a bottle of arnica, another of Pond's extract and a few other specialties which the druggist may recommend for trial. No stimulants are allowed. The case also contains a sharp knife and a pair of shears, the latter being attached to the case by a string, so as to be at hand when wanted.

A stretcher is furnished by the corporation, but no surgeon is regularly employed, since a hospital is located just opposite the factory entrance, and it is only intended to extend such aid to the injured man as to relieve him until the doctor arrives. There are frequently one or more young fellows about the works who are studying medicine in their spare hours, and who are competent to attend minor cases or check any dangerous flow of blood.

It is impossible to determine whether these simple remedies have saved any lives, but it is said to be a fact that no employe ever died from injuries received about the works, although this company has been in business about seventy years and now employs about eight hundred men.

Few But Representative.

Owing to a ruling on the part of the managers, only a limited number of motor bicycle makers were allowed to exhibit at the recent show in London held by the Automobile Club. Because of this, comparatively few machines were on view, although reports state that those shown were representative.

The list of exhibitors shows the following makes: Singer, Humber, Excelsior, Kitto, F. N., Regina, Aurora, Alldays, Swift, Brown, Martini, Mountaineer, Holden and Hewetson. In all there were 27 bicycles, 9 tricycles and 7 quadricycles shown by 17 exhibitors.

In addition to complete machines, the position of the industry and trade is well illustrated in the large exhibits of motors, parts finished and in the rough, frame sets, to say nothing of all kinds and conditions of sundries.

MOTOR BICYCLE FORKS

Important Items in Their Construction Pointed out—Two Opposing Strains.

One of the points to be watched in the construction of a motor bicycle is the design of the front forks. Not only on account of the increased weight, but also on account of some other forces which are brought to bear in the case of a motor bicycle which are not present in the case of the ordinary self-propelled machine.

The question of extra weight can be readily overcome by the proportionate increase in strength of the various parts, such as fork stem, crown and fork blades. It is not only the extra weight, however, which the fork of a motor bicycle has to bear. It has also to sustain certain strains which are inherent in any motor bicycle, but which vary a little with the position and working of the engine.

It has been shown that when a bicycle is standing stationary with a dead weight upon it the strain on the fork is such as to tend to cause it to bend out forward. If we jump the front wheel of a bicycle up and down this strain becomes enormously increased. It has also been shown, however, that with an equal weight on the machine, but the machine being rapidly driven forward, this strain is gradually diminished until a point is reached where the fork stem tube is practically exerting no pressure in the socket, either in the forward or backward direction, the pressure being directly in the line of its axis.

If the speed is again further increased the strain will be actually reversed, and the tendency will be for the front forks to be bent back instead of forward. This is a point which has not been sufficiently studied by designers, says a writer in a foreign exchange. In the case of the ordinary pedal-propelled bicycle the transition from one set of circumstances to the other is gradual, because the rider cannot give, with a fairly high gear, sufficiently fast acceleration to cause a sudden reversal of the strain. In the case of a motor-propelled bicycle, and more especially one fitted with a horizontal or nearly horizontal cylinder, it is quite possible that this reversal of the strain may become a very serious matter, and tend toward rapid crystallization of the metal with consequent grave risk of collapse.

The first remedy which would suggest itself to one's mind for this state of affairs is the flexible fork, but the flexible fork is open to the very grave danger, in the case of the motor, in the want of thorough lateral stability and freedom from wringing. It must be remembered, and will be well recognized by riders of motor bicycles, that it is often difficult to alter the direction of movement, due, no doubt, to the extra weight and speed and the gyroscopic action of the engine fly-wheels revolving at a high speed.

This added tendency to maintain a con-

stant direction has to be constantly counteracted by the rider through the handle bar via the front fork sides. This causes a constant wringing on the forks, a strain practically absent in the pedal-propelled bicycle. Front forks, then, should be made sufficiently strong to stand both the constant alteration of strain in a fore-and-aft direction and the wringing crosswise. It is probable that this could be done most effectually by some form of increased diameter steering column, and a reinforcing fork side carried upward and meeting the column tube above the top bearing.

In the case of cycles built on the Werner system, in which the motor mounted on the crown drives the front wheel, the drive, if fitted to a machine with curved forks, will have a tendency to be constantly bending them forward as the engine pulsates. This has been got over by putting a strut or stay to support the pull, but that does away with the resiliency of the front fork and probably increases the vibration on the handle bar which is felt so much on the front-driven Werner.

Prevents Tube Pinching.

Users of detachable tires are sometimes troubled by reason of a slight tendency on the part of their inner tubes to pinch, by reason of their coming in contact with the heads of the nipples which project through the rim. Usually a strip of fabric—sometimes attached to the outer cover—is interposed to protect the tube.

One of the English firms has brought out a special rim designed especially to get over this trouble. It is a tubular or hollow rim, with a steel tape bedplate. The rim is described as being of the beaded persuasion, the metal forming the inturred lips for the reception of the thickened edge of the cover upon inflation being turned over in the shape of crescent shaped tubes, which give extreme rigidity to the margins of the rim. The under surfaces of the rim section between the crescent tube edges and the circumferential depression for the spoke nipples is wider and flatter than usual. Then within the rim is the steel plate bedplate referred to, which is formed of a special brand of steel, very thin and light in weight, and rust-resisting. It lies flat and firm on the rim webs, bridging the central depression in the rim, and forming a perfectly smooth surface, carrying the edges or feet of the tyre cover, and most efficiently protecting the inner tube against contact with the spoke nipple heads.

Men who Will Manage the Fleet.

Although it will be held in Atlantic City, N. J., the management of the L. A. W. annual meet in July next will be wholly in the hands of Philadelphians. President Howell has named the following men to constitute the committee: George M. Schell, chairman, representing the Pennsylvania Division, L. A. W.; Joseph Estoclet, John A. L. Carson and Harry Hochstadter, of the Associated Cycling Clubs of Philadelphia, and H. B. Hart, who represents the trade.

STUMPED THE NOVICE

Apparently Inexplicable Motor Trouble That the Expert Cleared in a Jiffy.

An experience meeting was on. The new motocyclist called on the old-timer to tell his experiences on his first country run. After telling in no unmeasured terms of the delights of bucking strong head winds, climbing steep grades and scorching along the level without physical exertion, and finally of arriving at his noonday point for eating, thirty-five miles away, fresh and not reeking with sweat, he came out with the real purpose of his call.

"I got along all right until I was about five miles from home on my way back, when my motor commenced to miss explosions and kept it up all the way home. My spark was all right, I knew, because I not only tested it at the inner plug end, but, remembering that you have told me that a good spark outside the cylinder might be a poor one inside when it had to overcome resistance of compression, I had with me a pocket tester. It should I had plenty of 'juice.'

"Good compression? Yes; and I honestly believe my mixture was all right, as I didn't change it at any time. Now, if my mixture was right, my electric current right and spark plug clean, what 'the Philadelphia lawyer' was the matter?"

"Well, you are certainly supposing a whole lot, and as one guess is as good as another I am going to try to find out your troubles on the Yankee plan—that is, by asking you questions. And to be a real Yankee, my first question will be that I guess you lost your spark controller cover."

"Well, I'm blessed! I guess I have lost it, and I didn't think of it until now. When I was testing my spark I took the cover off to trip the trembler blade and laid it on the hotel porch and came off without it. But what has that got to do with the case?"

"Just this: There is probably at least a little leakage of oil around your spark cam, and when you had ridden far enough the dust from the road mixed with oil. This formed a sort of paste that covered the contacts and insulated them more or less. There was probably just enough grit in that paste to occasionally break up the covering it formed, and each this time this occurred you got a spark.

"Let me give you a little advice and at the same time a tip. It is not always necessary to take off the cover to try your plug. Leave it in and push the bicycle a foot or two, and you will get a spark, unless your contact points are scaled with dirt or with oxide from too much battery current. The latter doesn't often happen, though."

The motor bicycle riders of Minneapolis and St. Paul have held a preliminary meeting looking to the formation of a Twin City club.

RACING.

Frank Kramer was once more easily the star attraction at Vailsburg on May 4, winning, as he did, the quarter mile open professional and the five mile handicap, and incidentally reducing the record of 28 2-5 seconds for the quarter, made by himself two weeks ago, to 28 1-5. Six riders lined up for the final in this event—Kramer, MacFarland, Collett, Hadfield, Schrieber and Caldwell. They were sent off with Kramer slightly in the lead and MacFarland second. Just after rounding the first turn there was a mix-up. Collett, who was on the outside, bore down on MacFarland, and the latter, to avoid being shoved off the track, shot up the bank, taking Collett with him. All went on, however, and the race was fought out between Kramer, MacFarland and Collett, the finish being in the order named. The five mile handicap proved unusually exciting. There was a series of sprints and steals that kept the five thousand spectators on their feet. As the handicaps were arranged, it seemed impossible that those on scratch would overhaul the limit men. Kramer and MacFarland, who started from the place of honor, alternated pace in such a manner that Collett, at fifty yards, was overtaken on the fifth lap, and gradually the front-markers' lead was cut down until on the fourteenth lap all the contestants were closely bunched. Then Alexander went out in front in an effort to shake off those behind him, but Kramer tacked on behind and Alexander ceased his efforts. Again the field became bunched, and again another rider tried to steal away. It was Krebs this time, and he struck up such a gait that he was half a lap in the lead before the others knew what happened. The riders loafed, and Krebs increased his lead. This was kept up for two laps, and then MacFarland set sail for Krebs, with Kramer on his rear wheel. The gap was rapidly being closed, but at that it appeared too late. MacFarland put on more speed, and Krebs, tiring, fell back to the bunch. On the backstretch, the last time around, MacFarland fell back, beaten, and Kramer then took up the running. But Collett, who had done no pacing, was fresh for the final struggle, and gave Kramer a rare fight. Around the last turn and up the straight they came, with Kramer half a wheel to the good. A length back was Rutz, and in the rear the others were strung out for twenty lengths or more. Kramer held his lead, however, and his wheel showed in front by half a length. Collett was second, with Rutz and Krebs following. Collett had 50 yards, Rutz 200 yards and Krebs 200 yards. Time, 11:03 4-5.

There was considerable excitement over the match race, half mile heats, best two in three, between Billington and Schlee. Schlee won the first heat in 2:23 3-5, and Billington the second and final heats in 2:14 1-5 and 2:32, respectively. Edwin Forrest, from Brooklyn, making his start for the first time this season, was quite a surprise to Schlee, Billington and Glasson, who have been ear-

rying off the lion's share of the prizes in the amateur ranks. In the half mile amateur Forrest showed Billington the way home, with Courter and Coffey in the other positions; and later, at one mile, riding from the 60 yard mark, he led the field to the tape after a lively sprint with Achorn, Sindle and Coffey. These four finished on almost even terms, inches only separating them. Time in half mile final heat, 1:16 3-5; final heat in one mile amateur handicap, 2:03 2-5.

A three-cornered twenty-five mile motor paced race between Walthour, Butler and Mettling, which was the principal event on the programme at Charles River Park, Boston, on May 3, proved an easy victory for Walthour in 39:17 4-5. Mettling's tire burst and he was forced to withdraw at fourteen miles two laps, when he was half a lap behind Butler, who was two laps behind Walthour. The latter increased his lead to five laps at the finish. In the five mile open Kimball won the race after Potter had been disqualified for foul riding. Time, 12:06 4-5. Currie was second, Sulkins third, Stoughton fourth. The two mile amateur handicap was won by Kimball (scratch); Currie (25 yards), second; Root (40 yards), third; Wyatt (30 yards), fourth. Time, 4:22.

At the Parc des Princes track, Paris, on May 4, "Tom" Linton, the English cyclist, established a new world's record for 80 kilometres, or 49 7-10 miles, by defeating Elkes and Robl. Linton led the contestants all the way, except for a short time at 60 kilometres, when Robl was in front. Elkes came in two laps behind the winner, and Robl was third. Time, 1 hour 9 minutes 50 3-5 seconds.

For dishonest dealing in connection with the six days' race at Rochester, N. Y., on February 29, 1902, Tom Butler, of Cambridge, Mass., has been suspended until July 1, 1902, or has the option of paying a fine. Riley Sprague and John L. Shaw, Rochester, N. Y., are both suspended for a like period for the same offence, or have the option of paying a fine.

Will C. Stinson and Harry Elkes will meet twice on May 30, in the afternoon, in the Brassard race at Charles River Park, Boston, and in the evening at Providence. Jimmy Moran and Bobbie Walthour will meet at Revere Beach, Mass., MacFarland and McEachern at Pittsburg, and Munroe and Rutz at Atlantic City, all on the same date.

Coast's First Motorcycle Club.

The Pacific Motor Bicycle Club has come into existence in San Francisco—the first west of the Rockies. That enterprising dealer, Joseph Holle, is its captain. Charles Belman and B. J. Holle are first and second lieutenants, respectively.

"How to Drive a Motorcycle." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

THE RETAIL RECORD.

North Adams, Mass.—Berkshire Cycle Co. succeeds Hodge Bicycle Co.

Vineland, N. J.—Fish & Reynolds opened store at 529 Landis avenue.

Pueblo, Col.—G. H. & R. Heckinger opened store at 639 South Union avenue.

Albany, N. Y.—H. E. Newman opened store in Sloan Building.

Greenville, N. Y.—J. F. Brouillard opened shop.

New Castle, N. B.—F. W. Pickles opened shop.

Westboro, Mass.—H. A. Sawtelle sold out.

Cora, Can.—Frank Drury opened shop.

San Diego, Cal.—George L. Nolan bought out interest of W. L. Tibbals in San Diego Cycle and Arms Co.

A Removable Inner Tube.

You only have to wait long enough and almost any old thing will come back again. An English inventor has brought out as something new in the shape of an air tube, one which can be taken out and a new one put in its place without removing the wheel from the forks. As far as can be determined from the description the method employed is like that used with the old Victor tire; either that or a copy of the one used with the Morgan & Wright laced tire. It is thus described: The tube was an ordinary air tube, which had been cut in two. The ends were sealed up, and on one end was a rubber lined canvas sleeve, through an opening in which the valve (which was fixed to the other end of the tube) was passed, thus keeping the ends in position. To remove the tube from the wheel, all that was necessary was to deflate it, and then turn back over the valve the sleeve; this operation occupied a few seconds only.

It will be remembered that the Victor method referred to, and used in the middle nineties, was to take the tube out through a trap or manhole in the rim. It was not a very difficult job, provided the tube came out readily; when it stuck to the outer cover, however, as it often did, there was lots of trouble.

Back After a Dozen Years.

A dozen years ago, just before the pneumatic tire came into general use, there were very few roadster bicycles which did not have spring frames or spring forks or springs of some kind. The "bootlace" tires of the period rendered some relief from vibration almost absolutely necessary. At this time one English concern had a spring fork which became quite popular. The fork sides were hinged a few inches from their lower ends, and the lower portions had rearwardly projecting arms into which springs were set. The arrangement was not markedly unlike the device used on the Columbia machine of the same date. When the pneumatic tire came in this spring fork went out. Now it has been resuscitated by the concern in question, and is being featured on the 1902 machines.

REVISED THE RULES

N. C. A. Again Overhauls Pacing Regulations—How They now Stand.

At a recent meeting, in Boston, of those most interested in the matter, the late rules of the National Cycling Association relating to pacing machines were fully gone into. The causes for this were the questions that have come up over the widths at the rear hub and at the motor of machines now in use or being constructed. Matters were fully gone into by inspecting a number of pacing machines. As a result, amended rules have been promulgated, which read as follows:

With some exceptions the Racing Rules cover the general requirements governing motorcycle pacing and racing, and the additional rules herewith given provide points for special attention.

In open or match competition, with motorcycle (tandem or single) pacing, these conditions are established:

RESTRICTIONS FOR MACHINES.

1. No part of a motor tandem (except such parts as are hereinafter specified) shall exceed eight (8) inches at its widest part, including appliances of regulation size—such as motor, spark coil, carburetter, battery box, etc.—and said appliances shall be placed in a parallel line in front of one another (with the exception of carburetter, which may be placed to one side of the motor or tank, but not directly alongside of either). It is understood that the over-all measurement of eight (8) inches can be exceeded at the following points:

(a) At the part of the machine where the motor proper is located the necessary parts and fittings must not exceed thirteen and one-half (13½) inches in width, outside measurement, when connected together. Six and one-half (6½) inches shall be considered as the extreme limit of width for the body of the motor, and the balance of the space allowed shall be used for the necessary connections, such as connection bolts and plates, sprockets, nuts and the cam and box covering same, and said cam and box shall not exceed five (5) inches in diameter.

(b) The over-all measurement of eight (8) inches also can be exceeded at the fork ends carrying the hub of the rear wheel, and also where the forward sprockets are connected, so that the chain will run in line; the total width at these points to be limited to twelve (12) inches, outside measurement.

(c) The extreme width of the pedals (outside measurement) shall not exceed twenty (20) inches. Handle bars may be widened to exceed twenty (20) inches to meet the requirements of the operators.

(d) Saddles on motor pacing machines must not exceed ten (10) inches in width and three (3) inches in thickness. No padding shall be allowed under the frame of the saddle.

The referee shall have the right to order

appliances not in actual use taken off the machine, or, if, in his judgment, such appliances serve the purpose of a wind shield.

2. The gasoline or naphtha tank attached to a pacing machine shall be used solely for the storage of a fuel supply, and shall be so constructed as to present not more than seventy (70) square inches of surface for wind resistance. Each machine is limited to the use of one tank, which shall at no part of its construction exceed eight (8) inches in width.

3. Battery boxes for use on pacing machines must not exceed eight (8) inches in height and three (3) inches in width.

4. The use of mufflers and water jackets on pacing machines is not permissible, and contestants must not use any part or accessory on machines which might prove dangerous.

5. In preparing pacing machines for use, operators are cautioned against allowing the back edge of the saddle to project beyond the outer edge of the tire on the rear wheel; and the gasoline tank and all other appliances must be placed in front of the operator and extend not further back than the rear forks. Under no circumstances will a departure from this rule be tolerated.

6. Operators and steersmen will be required to pedal at all times while pacing a race.

PACEMAKERS.

1. No straps or supports of any kind shall be used by a pacemaker, and the referee shall have the discretion to order anything off a pacemaker that in his judgment gives an unfair advantage.

2. No pacemaker shall be permitted to dress in other than the ordinary manner, and shall be limited to the accepted regulation costume of sleeveless shirt and knee tights, to which may be added one sweater and one pair of long tights, same to be of size fitting wearer.

SINGLE MOTOR BICYCLE.

The above rules also govern single motor bicycle pacing, with the exception that pedalling shall be optional with the operator, and the feet of the operator shall not rest lower than within four inches of the track.

Canfield's Prosperity.

The Canfield Brake Co., Corning, N. Y., report that while they previously had small cause for complaint, since they reduced the price of their coaster-brake to \$3 the renewed demand has simply exceeded expectations. The fact that the Canfield may be screwed on to any hub without tearing down the wheel has always been a point that appeals to prospective purchasers, and with the low price and a year's guarantee that the combination is a strong one is not to be denied. The Canfield people also supply their device attached to a hub for \$3.75, or with a complete rear wheel, minus tires, for \$5.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

GOOD BYE TO GEAR-CASES

Even in England, They Appear to be Losing Ground—Their Failure Here.

How many riders are there, we wonder, who ever give a thought to the subject of gear cases? Or, to carry the matter further, how many possess any real knowledge of these once much discussed articles? Very few, it will be admitted.

It will scarcely be disputed that whatever need—real or fancied—there may formerly have existed for gear cases has practically disappeared. No one ever expresses a wish for one. No one would think of buying one and having it fitted to his machine, or even of paying a little extra for one when he bought a wheel. If such a thing were suggested he would be very likely to ask what good it was.

How far we have really gotten away from gear cases is best shown by the great decrease in chain troubles. Formerly riders' thought turned to the cases because their chains behaved badly. They became choked with dust or mud, groaned, cracked, rode the sprockets and did all sorts of unorthodox things. Relief was sought, and the only direction from which it seemed possible to obtain it was that from which the gear case would have come.

As a matter of theory, no one even thought of disputing the assertion that naked chains were an abomination. It was only when it came to covering them that there arose differences of opinion. The difficulties in the way were great. The much desired lightness of the bicycle interposed one great obstacle. Flimsy cases were a nuisance, and yet no rider would put up with the weight of the right kind.

But all that has been changed. In England, the home and stronghold of the gear case, it long ago ceased to gain ground, if, indeed, it held its own.

Here the exceedingly slight hold it once had has been lost. It is entirely probable that if some one came forward with an eminently satisfactory case and tried to popularize it it would fall flat. This even if the extra charge for it was merely nominal.

Improvement in chains has had much to do with the change. Less riding, and particularly less of the reckless and dare-devil kind, has also been a factor.

It remains that the fitting which at one time was deemed certain to eventually find its way on nearly all cycles has almost passed out of use.

\$3,500 for an Arm.

A New Jersey cyclist recently recovered \$3,500 for the loss of his right arm. The arm was amputated as the result of a fall from his bicycle on a road which was in poor condition.

The Man

Who Asked That Question,

"Why Should the Spirit of Mortal be Proud?"

had never ridden a

Wolff-American, a Regal or a Holland Bicycle,

else the question would never have been asked.

If you know why, just drop us a line.

The reasons are interesting and profitable.

Stearns Bicycle Agency,
SYRACUSE, N. Y.

"GREATEST DRAWING CARD."

"PREDICTIONS FULLY BORNE OUT."

126-130 Nassau Street,
New York, April 14, 1902.

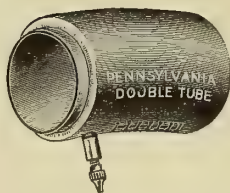
ROYAL MOTOR WORKS,
29-33 West 42nd Street,
New York, N. Y.

Dear Sirs:—Please enter our order for another Royal Motor Bicycle for immediate delivery and send with it another bundle of catalogues. We made another sale this afternoon and wish to keep our present number of machines in stock during the busy season.

Your Royal is the sensation of Nassau Street and the greatest drawing card we have had in our window for years. The sidewalk is usually so crowded that passers have to step into the street, and as for sales, we find your predictions fully borne out.

Yours very truly,
A. G. SPALDING & BROS.
Per W. H. BURGESS, Mgr.

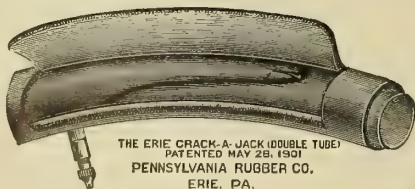
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK (DOUBLE TUBE)
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

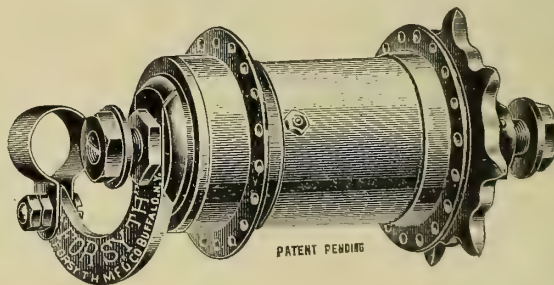
CHICAGO
PHILADELPHIA

BOSTON



The Forsyth

IS UNLIKE OTHER COASTER BRAKES.



IT HAS PAID

OTHERS TO LEARN WHEREIN IT DIFFERS.

IT WILL LIKELY PAY YOU.

WANT THE INFORMATION?

FORSYTH MFG. CO., Buffalo, N. Y.

VALUE OF FOLLOWING-UP

Dealers do not Pay Enough Attention to Casual Inquires—How to do it.

There are undoubtedly few retail dealers who do not appreciate the value of some kind of advertising. The "how" to make the most of that value is the thing most often lacking. They know that large advertisers have some way of doing it, but often do not understand the means employed. The entire matter resolves itself into what is now generally known as the "follow-up system." The extent to which this is carried can best be realized when it is stated that there is a publication exclusively devoted to this one subject, and that several concerns of large proportions are in the business of supplying advertisers with paraphernalia for this follow-up work.

The subject has been frequently treated of in the *Bicycling World*, and its importance is of a moment that gives direct interest to the following, from the pen of a specialist, which recently appeared in an exchange:

"With further reference to the virtue of push touched upon heretofore, I would like to remark on a phase of bicycle selling which has apparently escaped the notice of most retailers.

"It is a commonly accepted idea that there is but little use in trying to sell bicycles except at the beginning or riding season, or early in the year. Consequently many dealers make a big amount of stir and push in the first four or five months, and then slacken off into a sort of take-things-as-they-come attitude toward trade. This I venture to think is a great mistake to make, for unquestionably there are people everywhere who do not pay much heed to the time of year in respect of wanting or not wanting a new machine. Many riders begin the season with the bicycle that has carried them for some time past, maybe two, three or four years, and then find out that they would like to make a change. There are the people, too, who are learning to ride, perhaps on a hired machine or on a second-hand picked up for little money. These are very probable customers for new machines when the year has well advanced, and will pay for looking after.

"What I want to remind you of particularly is this: that the limit of business is by no means yet reached. There are many hundreds of thousands of cyclists now, but there are millions yet to come. Each of you has his chance of business among the non-riders that live around you. Too much attention may not have been given to the actual riders in your district. I am sure this is where the opportunity comes in for the outsider to capture customers. He puts an advertisement in a number of papers which arrests the attention and beguiles the fancy of the reader who does not ride, and after a little consideration of the matter the would-be

cyclist gets into communication with the advertiser. It does not signify what time of year it is, that newspaper reader is followed up and literally bombarded with attentions until he yields and becomes a buyer.

"The custom of the average retailer is very different. Somebody calls for a quotation or a catalogue and gets it, with a few particulars that are more or less clear and convincing. He goes away, and the retailer hears no more of him. If he thinks about him at all he has omitted to register the name and address, so that he cannot communicate with him. Then some weeks after the call he meets him casually and inquires about the chances of a sale only to learn that the man has just fixed up with some other dealer.

"In the case I have described there is a very different method and dealing which brings out to the fullest extent the virtue of push. A caller asks for a look at a — machine, and wants to know all about it. By the use of plenty of tact you learn how it is he happens to mention this machine, and you at once enter this information in a book kept for the purpose of registering such inquiries. It is a simple matter to obtain the name and address, for which you can always offer a sufficient reason. This is entered alongside the foregoing, and any particulars are added that may strike you as being worth recording. He takes a catalogue and his departure without buying.

"In a rough diary which can be bought for a few cents you enter on a date a week later just the man's name as a reminder to look up the register and see whether any business came of the first call. If nothing resulted, when you reach the date of your reminder take the trouble to write to the man a nice personal letter and inclose a stamped addressed envelope for reply. On this envelope affix a tear off label printed in red ink, 'This is a stamped envelope, and Mr. Jones will esteem the favor of your reply to the accompanying letter.' This precaution is needful because many recipients neglect to keep envelope and letter together and be at the trouble to answer.

"In your register note the date of this letter being sent, your first follow-up, and post another reminder a week forward in your diary. If nothing has then come of a satisfactory nature, send another personal, as before, and request permission to call and chat the matter over, or suggest another call on you. Keep him supplied with whatever advertising matter you think will fetch him, and so long as there is the slightest chance of success keep pegging away, and you will get him at last.

"But some one says he has no time to spare for this kind of thing. That is another of the mistakes that are so common. You have little idea of what can be done in the odd minutes and half hours that you take no notice of. And very little consideration of the value of time will show you ways of getting this extra work done, so that you will be surprised that you have neglected it so long."

SOFT SOLDERED JOINTS

Were Made to Avoid Overheating the Tubes —Spelter Solder for low Heats.

Of course, the subject of light weights is nothing new, but that it has interest was recently shown in a discussion in which a representative of the *Bicycling World* took part. The matter was given its first send-off from a remark dropped that Englishmen accused us of building "ice wagons."

This led to a recapitulation of machines that had been owned by the different persons in the party, the average weight hovering around 20 pounds. One claimed an 18¾-pound bicycle. When the *Bicycling World* man said that he built a 14-pound machine that had been in constant use ever since its construction, in 1896, he was awarded the palm—as a teller of "light weight" stories. Whatever criticism he came in for in the matter of condensing the weight, that criticism was tame as compared to the basting he got when he said that no brazing had been done, every joint being soft soldered.

The impeachment was listened to and further cause given by claiming that 26-gauge tubing was used. In explanation it should be stated that the bicycle was not of the standard diamond-frame design, but of freak construction from the general standpoint.

A detailed explanation of how the tubes were disposed of, their lines of strain and the counteracting influences proved to those who were qualified to judge from an engineering standing that the thing was entirely feasible, and that the weight and strength were, after all, within reasonable claims.

It was generally conceded that, other than some merit in the frame design, the real strength in the construction came from the fact that the tubing at no point was subjected to high heats and sudden coolings. There was also the factor of no after filing, as is often necessary when hard solder—or brazing—is resorted to.

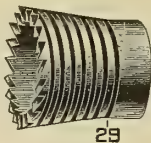
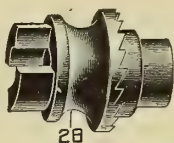
The discussion of these two points naturally lead up to methods for brazing without high heats, and the following formula was given for a tough brazing spelter that could be used at a bright cherry-red heat: Of copper there should be 30 parts, of zinc 45 parts and of silver 25 parts. The copper should first be melted, then the silver added, then the zinc. When the zinc is added, powdered charcoal should be sifted on the surface of the fluid, otherwise the zinc will escape as fumes.

In using, the parts to be united must be carefully cleaned, as in soft soldering. The fit should be a good push fit, not a driven fit. The heat should be raised slowly, and asbestos will give better results as a backing than anything else that can be used.

IN
CORBIN'S DUPLEX NEW DEPARTURE
IT IS
THE HAPPY COMBINATION

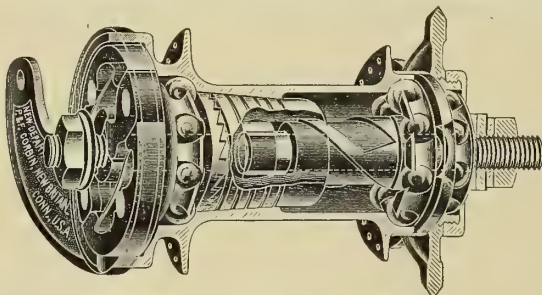
of coaster and brake that accounts for its emphatic success.
The brake is not less important than the coaster.

NOTE THE BRAKING MECHANISM.



IT NEVER SLIPS.

AND HERE IS HOW BOTH COASTER AND BRAKE ARE APPLIED.



FITS ANY WHEEL.

IMMEDIATE DELIVERIES.

CATALOG ON REQUEST.

P. & F. CORBIN, New Britain, Conn.

P & F. CORBIN OF NEW YORK, 11-13-15 Murray Street.
PHILADELPHIA, 925 Market Street CHICAGO, 104-106 Lake Street.

DEALERS

We can make you immediate
shipments in

BICYCLES

that retail at

\$15.00 to \$20.00.

*If you are bothered in getting shipments
from factories, write us for
catalogues and samples.*

PRICES RIGHT.

**E. P. BLAKE CO., 57-59 SUDBURY ST.
BOSTON, MASS.**

★	Star	Bridgeport	Record	★
Record	<p>STAR BRIDGEPORT RECORD</p>			
	<p>BICYCLE PEDALS.</p>			
Bridgeport	<p>A trial will convince you that B. G. I. PEDALS are <i>by far the best</i> you can buy. Made of the best steel, and carefully inspected. Simple in construction. Perfect alignment of bearings. Standard of excellence in style and finish.</p>			
	<p>USE 1902 MODEL B. G. I. PEDALS.</p>			
	<p>THE BRIDGEPORT GUN IMPLEMENT CO., 313-317 BROADWAY, NEW YORK.</p>			
★	Star	Bridgeport	Record	★

Increase and Stimulate Your Business



and give the rider all the pleasures of cycling by equipping their wheels with a Spring Seat Post. Indispensable in connection with the Coaster Brake or Motor Cycle. A trial will convince you of the real merit and pleasure to be derived from the use of the Berkey Ball Bearing Spring Seat Post.

*You take no chances with our post.
It's fully guaranteed.*

SOLD BY LEADING JOBBERS EVERYWHERE OR ORDER DIRECT

**BERKEY SPRING SEAT POST CO.,
GRAND RAPIDS, MICH.**

SEEKING TRADE IN SIAM

The Best way to Obtain it—Mistakes Made by Americans—How to Pack Bicycles.

American goods can be bought in Siam only by mail orders or through agents in no way responsible for the quality of the articles delivered, says Consul General King, writing from Bangkok. English, German, Danish, French and Italian goods, on the other hand, can be bought by sample and through responsible agents to whose interest it is to see that the customer is satisfied.

Catalogues, price lists, and pictures are of little value to the oriental, other than for decoration. He wishes to see and handle his goods and compare them with the samples from which they were ordered before he is convinced of their merit. The house that furnishes him this opportunity will secure his trade. So long as our exporters are satisfied to compete for the trade of Siam by the use of catalogues and mail orders, or through travelling salesmen and agents other than those who are well established here and whose character and reputations are a guaranty for their undertakings, so long will they play a losing game in this market. The establishment of a good house in this city—one that can handle goods on a large scale and that can conduct in connection with it a commercial museum or sample department to which the producers of America may contribute—is the best remedy for this evil.

Prompt fulfilment of orders and efficient methods of packing characterize the European trade. Attention to all orders and to business correspondence cannot too often be enjoined upon our exporters. At so great a distance, the possibilities of a letter being lost or miscarried are multiplied many times. Three months must be allowed for a reply, and the miscarriage of a letter means a long and exasperating delay. The firms longest in business in the Far East invariably duplicate correspondence by means of press copy. Cable messages demand instant attention; yet American dealers have been known to hold up replies to important cablegrams for a month.

Paper and pasteboard packages should never be used for goods shipped to Siam. Shavings and excelsior, however, are preferable, as sawdust often leaks badly. Too much care cannot be taken in preparing fragile goods for this market; a leading firm has this to say on the subject:

In direct contrast to American packing is the packing of Great Britain and Germany.

... We have constantly endeavored to obtain orders for fragile goods of American manufacture, and as constantly the buyers inform us that they cannot afford to purchase goods which are so badly packed as those arriving from America; as with only half the order arriving in a salable condition,

they would be unable to meet their contracts.

No special care need be taken to make cases light, as customs dues are levied on values only—not on weight. Cases should invariably be lined with tin and soldered tight whenever the contents are subject to the effects of moisture.

I quote from a surveyor's report on bicycles:

The damage done by salt water is obviously due to the fact that the cases are not tin lined. Bicycle cases should certainly be tin lined and soldered; the cost spread over five machines is small, and a rusty bicycle is practically unsalable.

It is the invariable rule of American houses to demand of their Siamese customers, of whatsoever standing or connection, either cash in advance for goods



NEW YORK BRANCH: 214-216 WEST 47TH STREET

ordered (which is the common practice) or cash on documents, with bank references, through local banking institutions. English and European houses, on the other hand, grant from three to six months' time on all purchases, and treat their customers of good standing in Siam with the courtesy an American expects to receive from the firms with which he deals at home.

It should be borne in mind that the import houses here are generally European, not oriental, and, if desired, business can at all times be confined entirely to other than native firms; that as a rule these houses assume any risks that may arise from dealing with the oriental merchants; and that the demand that time be allowed on all purchases grows out of the peculiar conditions of trade with these people. That the six months asked is barely sufficient to enable houses engaged in the import trade to carry on business cannot be better demonstrated than by quoting from the minutes of a recent meeting of the Bangkok importing firms:

The following resolutions were carried unanimously:

That all import firms bind themselves to the following conditions:

(a) On arrival of goods, notice to be given to indenter to take immediate delivery, and promissory note for the value to be signed at three months' date. Should indenter be unable to take prompt delivery, one month's grace to be allowed, on the expiration of which a promissory note is to be signed as above, the goods then lying at indenter's risk from that date.

(b) Should the debtor fail to pay on date due, interest to be charged at the local bank rate of interest on secured loans, but if payment be made within one month after date when the promissory note is due, such interest to be remitted.

(c) Clause (b) to apply also to all promissory notes signed on and after January 1, 1901, for purchased good not indented for.

(d) On cash sales, not more than 3 per cent discount shall be granted for payment within one week.

No other factor in the whole problem of American trade with Siam is so detrimental to our interests as the demand in regard to payments that American houses invariably make of their customers. There is no reason why goods should not be sold on time here as well as in America. Banking facilities in Bangkok are as good as in any city at home; the standing of firms can be obtained on equally reliable information (through banks, etc.); and, finally, the courts in Bangkok are conducted in the same way as those in Europe and America. This is an extra territorial country, and every nationality has jurisdiction over its own subjects. To my knowledge, there are three Americans trading in special lines in this city who prefer our goods and who have tried hard to do business with our countrymen, but each of these men has been driven to trade in England and in Germany, because of the treatment he has received.

The worst feature of the case is not the present loss to our commerce, but the fact that, day by day, trade is being diverted to other countries. Europe wants the trade of Siam; she is bidding for it, and she is getting it because she offers inducements which America is quite as well able to give, but does not. In this country, there are no proper warehouses. Inability to produce cash at once means exposing the goods to a dampness that cannot be appreciated by those not acquainted with the Tropics and, what is far worse, to the attack of white ants—swift destroyers that cannot be guarded against in this country.

A well established American house in this city would do much to create in the United States the confidence needed for a more liberal policy on the part of our producers; but, until this is established, intelligent use of the means at hand would relieve much of this difficulty. With the same business precaution that is exercised at home, our producers can dispose of goods on time in Siam with little, if any, more risk than they are accustomed to take in America. Other business men all over the world are doing it with success; why should not the business men of the United States?

If
You Are
Interested
in
Automobiles



WILL SURELY
INTEREST YOU.

It is published for the information
of the average mortal; no dic-
tionary of mechanical
terms is needed to
understand it.

PUBLISHED EVERY THURSDAY
AT 123-125 TRIBUNE BUILDING,
NEW YORK CITY.

\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.

Rubber From a new Source.

A French contemporary describes a new process for making artificial india rubber. The inventor mixes the fibre of ramie with the milky juice of a Chinese plant, whose botanical name is *Abornamortana brassa*. This gum is known commercially as Pontianak gum. The synthesis of rubber is undertaken by the assimilation of gums and fibres of the same family which, under certain conditions, seem to have a natural affinity for one another and give an elastic material having the properties of rubber.

The ramie fibre is preferably first dried, and the oily and volatile matters which it contains are removed. The gummy juice is then mixed with the fibre and the mixture crushed between cylinders heated to a temperature of 50 degrees C. It is passed back and forth between these until the two constituents are completely incorporated in one another. The mass is then placed in an oven, the temperature of which is 150 degrees C., and this temperature is raised gradually to a point between 175 degrees and 205 degrees. After about four hours this process is completed.

When the mass is cooled it is seen that although the fibrous structure remains its textile resistance is completely destroyed. The mixture is then worked at a temperature of 50 degrees in a mixing mill until the fibrous structure is entirely destroyed and the mass is uniform. During the last treatment substances giving off oxygen, such as borate of manganese or permanganate of potassium, are introduced in the proportion of from 5 to 8 per cent, and if desired a softening material, such as balata gum, up to about 10 per cent; sulphur may also be added.

This process being completed, the mass is allowed to cool for about forty hours, to permit thorough assimilation, and the mass is then cooked by steam under a pressure of 50 pounds to the square inch for about three hours. When the product is cool it is stated to have all the qualities of india rubber. The following formulæ give various grades of product: Gum, 80 per cent; fibre, 15 per cent; sulphur, 5 per cent. This gives a good marketable quality of flexible rubber.

A better quality of the same product is made from the mixture of gum, 72 per cent; fibre, 10 per cent; balata, 10 per cent; sulphur, 8 per cent. A flexible material, excellent for the manufacture of hard rubber objects is made of gum, 75 per cent; fibre, 20 per cent; sulphur, 5 per cent. In the first formula given the sulphur may be replaced by permanganate.

Weight for Weight.

It has been figured out by an English expert (?) that "a bicycle for all-around work should weight three pounds for every 14 pounds of its rider, so that a cyclist of 14 stone should not own a machine which, with brakes, free-wheel and mudguards, gear case, and saddle, turns the scale at less than 42 pounds." Such nonsense carries one back to the days of the old high bicycle, when one pound per one-inch diameter of driving wheel was presumed about the thing.

50,000 PAIRS TIRES

READY FOR DELIVERY

AT

\$1.50

\$1.75

\$2.00

Order your tires where
you can get deliveries
and right prices.

EYE-OPENING PRICES ON SUNDRIES

will be mailed to Dealers sending
in their business card.

Write us for
PRICES
on
Marsh Motor Bicycles

WE ARE ESTABLISHING AGENCIES.

WILLIS

Park Row Bicycle Co.,

23 PARK ROW,
NEW YORK.

NOW'S THE TIME WHEN DEALERS

can turn the



Persons Saddle

TO ADVANTAGE.

Riders who took "any old saddle" that came with their bicycles are learning that the saddles are not what they seemed, and are therefore in a mood to be won over to the saddle of quality, the Persons.

THE WINNING OVER IS
EASY AND MEANS AN
EXTRA PROFIT FOR
THE DEALER.

PERSONS MFG. CO.,

C. A. PERSONS, President,

WORCESTER, MASSACHUSETTS.

The Week's Patents.

698,454. Filler Compound for Tires. Adolfo de Clairmont, Topeka, Kan., assignor of one-half to Albrecht Marburg, Topeka, Kan. Filed Nov. 7, 1901. Serial No. 81,436. (No specimens.)

Claim.—1. A composition of matter for filling tires consisting of glue, molasses, water and granulated cork in about the proportions specified.

2. A composition of matter for filling tires consisting of glue, molasses, water, resin and granulated cork in about the proportions specified.

698,714. Bicycle Lock. Wilhelm Klees, Magdeburg, Germany. Filed Nov. 12, 1901. Serial No. 82,015. (No model.)

Claim.—The combination with a frame of a bicycle, a brake rod provided with a brake, a ring or collar secured to said brake rod, a lock casing clamped to the frame of a fork pivoted to said lock casing adapted to embrace the brake rod and engage the collar thereon, spring tumblers within said casing adapted to engage the shoulder on the rear end of the fork and hold the fork in locked position and also engage the rear end of said fork and hold it in unlocked position, substantially as set forth.

698,941. Bicycle Wheel Hub. Leon C. Hanna, Tampa, Fla. Filed Feb. 5, 1901. Serial No. 46,124. (No model.)

Claim.—1. The combination with a hub having spoke flanges spaced inwardly from the ends thereof, the hub adjacent to the outer face of one of the flanges being threaded, a sprocket screwed onto said threads and lying against the flange, said sprocket having a rabbet at its inner edge, a clamping nut engaged with the threads of the hub and disposed in the rabbet to clamp the sprocket, said sprocket having also an annular flange on its outer face, and an axle disposed in the hub and having bearings between it and the hub, said axle having a cap at one end disposed over the end of the hub and having a radiating flange disposed against the outer face of the sprocket and the inner face of its flange.

698,950. Bicycle Bell. Norman N. Hill, East Hampton, Conn., Filed Dec. 12, 1901. Serial No. 85,600. (No model.)

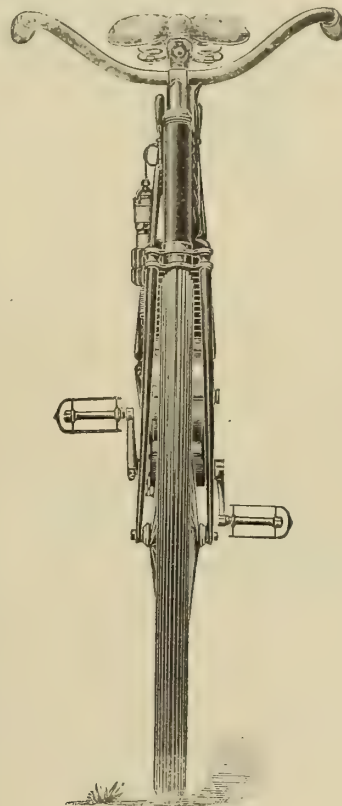
Claim.—1. In a bicycle bell, the combination with a gong, of a striker, a loosely mounted balance wheel by which the striker is carried, and means for imparting an initial rotatory impulse to the balance wheel, including a coupling device which permits the balance wheel to continue to rotate independently of the said means after it has once been started rotating.

698,951. Bicycle Bell. Norman N. Hill, East Hampton, Conn. Filed March 24, 1902. Serial No. 99,786. (No model.)

Claim.—1. In a bicycle bell, the combination with a gong, of a striker, a balance wheel by which the striker is carried, a pawl carried by the balance wheel, a ratchet wheel engaged by the said pawl and having its axis concentric with the axis of the balance wheel, and means for positively rotating the said ratchet wheel which is free to turn independently of the balance wheel in the opposite direction from the direction in which the same turns.

Putting into effect the efforts to take advantage of the conditions mirrored by the trade journal can very properly be the work of employees. The knowledge of conditions should and must be possessed by the directing head.

The DeLong Motorcycle



FRONT VIEW.

PRICE \$200.

FACTS ABOUT THE DeLONG:

Extreme Lightness.

Its Neat Style.

Entire Absence of Tanks and Traps.

Narrow Tread, 5 1-4 inches.

Its Cleanliness.

Its Simplicity, which is the keynote of this machine's success.

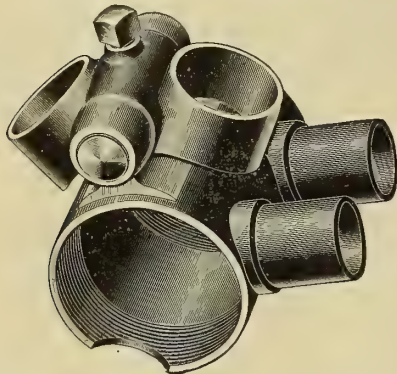
Our Catalogue Tells The Rest.

IT'S A MONEY MAKER FOR
BICYCLE DEALERS.

Industrial Machine Co.,
PHOENIX, N. Y.

Fauber Hinge Bracket

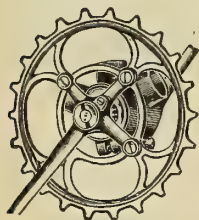
for Cushion and Spring
Frame Bicycles.



The hinge parts are made of forgings.
Bearing points are wide apart, lessening chance for
lost motion.
The hinge pin is a hardened and ground taper pin.
Bracket for 1 1/8 in. and 1 in. tubing fitted to all
styles

FAUBER HANGERS

FAUBER MFG. CO., - Elgin, Ill.



"D. & J." HANGERS



Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY
THE NATIONAL CEMENT & RUBBER MFG. COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the -

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

FOR SALE—One Galvanized Enameling Oven.
A good one at low price. BUTLER & JOHN-
SON, Syracuse, N. Y.

WANTED—Everyone interested in motor bi-
cycles to purchase "Motocycles and How to
Manage Them." Contains 126 pages bristling
with information. \$1.00 per copy. For sale by
The Goodman Co., 154 Nassau St., New York City.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
423 Broome St., New York

Upon receipt of 40 cents in stamps we will mail one
dozen of the MAGIC as a sample trial to any part of
U. S. A. Ask your jobber for it.



HAS A POINT ONLY 1/16 IN. DIAMETER.

Bicycle salesmen wanted to handle the MAGIC as a
side line.

THE MAGIC REPAIR TUBE CO., 248 LARRABEE ST., CHICAGO, ILL.

French Knit Racing Suits.

WE ARE SOLE MANUFACTURERS.

DEALERS WRITE FOR PRICES.

H. J. KOEHLER SPORTING GOODS CO.,
845 Broad Street, NEWARK, N. J.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

THE ARMSTRONG "A" CRANK HANGER



is conceded by competent judges to be the
most perfect in point of design, mechan-
ical construction, finish and materials used,
that it is possible to produce. Made in
one grade only, the highest. Handsome
in appearance; simple in construction; easy
and positive adjustment. We make the
most complete line of bicycle frame fit-
tings and crank hangers on the market.
Our 1902 prices are low. Write for them

ARMSTRONG BROS. TOOL CO., Chicago.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....



A De Dion Tricycle
\$165.00.
 1 1/4 h p. engine. Fine running order. Paint raked off at few places, but in good running order. Guaranteed. French tires; never been punctured.
Oldsmobile, good running order as new machine, **\$525.**
A. L. DYKE,
 1402 Pine St., **St. Louis.**

WYOMA Coaster Brakes.

UNIVERSAL AND DETACHABLE.

We control following patents:

June 12, Aug. 14, Dec. 25, 1900,

Feb. 19, March 26, April 1, 1901,

covering all features of construction of these brakes. We also control trade-mark "E. Z." and will manufacture all brakes so stamped.

See issue of January 1st for description and watch our Ad.

Reading Automobile & Gear Co.,
 Tenth and Exeter Sts., **READING, PA.**

"PERFECT"

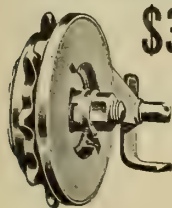


OILER.

For High Grade Bicycles. The best and neatest Oiler in the market. **DOES NOT LEAK.** The "PERFECT" is the only Oiler that regulates the supply of oil to a drop. It is absolutely unequalled. Price, 25 cents each.

We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK

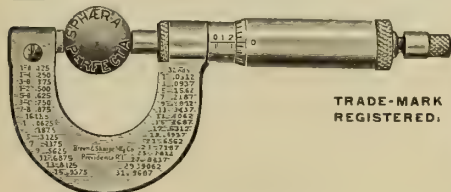


\$3.00 Coaster Brake

FITS ANY HUB.

Screws on in place of the usual sprocket. Anyone can apply it. For free booklet and particulars, address

Canfield Brake Co., Corning, N. Y.



STEEL BALLS

TRADE-MARK
REGISTERED.

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

The Week's Exports.

Measured by the standard of the last four months, last week was a light one in the matter of cycle exports. Great Britain, with purchases of nearly \$12,000, was easily the heaviest buyer. Denmark (\$5,400), Holland (\$5,200), Germany (\$3,700) and Australia (\$3,500) were the other "big ones." The record in full follows:

Antwerp—21 cases bicycles, \$580; 29 cases bicycle material, \$2,090.

Amsterdam—153 cases bicycles, \$2,570; 35 cases bicycle material, \$1,345.

Arnheim—2 cases bicycles, \$125.

British West Indies—80 cases bicycles and material, \$2,018.

British East Indies—11 cases bicycles and material, \$310.

Bremerhaven—3 cases bicycles, \$172.

Bremen—30 cases bicycles, \$840; 3 cases bicycle material, \$116.

British Guiana—9 cases bicycle material, \$146.

Brazil—1 case bicycles and material, \$22.

British Australia—75 cases bicycle material, \$3,490.

Christiania—2 cases bicycles, \$166.

Copenhagen—172 cases bicycles, \$2,739; 55 cases bicycle material, \$2,696.

Dutch Guiana—4 cases bicycles and parts, \$144.

Dutch East Indies—3 cases bicycle parts, \$86.

French West Indies—2 cases bicycles and material, \$115.

Genoa—1 case bicycles, \$60; 30 cases bicycle material, \$1,435.

Glasgow—3 cases bicycles, \$100; 1 case bicycle material, \$16.

Hango—5 cases bicycles, \$250.

Havre—166 cases bicycles, \$1,905; 17 cases bicycle material, \$765.

Helsingfors—20 cases bicycles, \$500.

Hamburg—61 cases bicycles and material, \$2,600.

London—6 cases bicycles, \$275; 81 cases bicycle material, \$3,820.

Liverpool—106 cases bicycles, \$2,320; 20 cases bicycle material, \$1,148.

Naples—1 case bicycles, \$50.

Rotterdam—43 cases bicycles, \$970; 9 cases bicycle material, \$328.

Southampton—76 cases bicycle material, \$3,073.

St. Petersburg—8 cases bicycles, \$197.

Stockholm—14 cases bicycles, \$500.

Uruguay—2 cases bicycle material, \$259.

Wiborg—2 cases bicycles, \$75.

Wasa—3 cases bicycles, \$75.

The very name

HYGIENIC CUSHION FRAME

suggests health and
conveys visions of
comfort.

And all who have
tried it know that the
frame is as good as
its name.

If you are in the
cycle business you
will help your bank
account by letting as
many people as possible
try a Cushion
Frame. A trial is
usually equivalent to
a sale.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

The H. A. Matthews Mfg. Co.

MANUFACTURERS OF

BICYCLE FITTINGS

of all description and of the finest quality,

SEYMOUR, CONN., U. S. A.

HAVE YOUR BICYCLE EQUIPED WITH A

NEW DEPARTURE COASTER BRAKE

SOLD EVERYWHERE BY EVERY BODY

MANUFACTURED BY
THE NEW DEPARTURE BELL CO.
BRISTOL, CONN. U.S.A.

SELLING AGENTS
JOHN H. GRAHAM & CO.
NEW YORK CITY.

SOLAR LAMPS

ALWAYS SATISFY.

Badger Brass Mfg. Co., Kenosha Wis.

FAST TRAINS

Chicago & North-Western Ry.

- The Overland Limited*
California in 3 days
- The Colorado Special*
One night to Denver
- The Chicago-Portland Special*
Oregon and Washington in 3 days
- The North-Western Limited*
Electric Lighted—Chicago,
St. Paul and Minneapolis
- Duluth and St. Paul Fast Mail*
Fast train to head of lakes
- The Peninsula Express*
Fast time to Marquette
and Copper Country

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

461 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburgh
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.
"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars.
For other service west, time tables, reservation, etc., address
A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage Them"

is the very book you need.
Every page teaches a lesson. Every illustration
"speaks a piece."
And there are 126 pages and 41 pictures, too
Price, \$1.00.
The Goodman Co., 124 Tribune Bldg., New York.

If You are Interested in Automobiles, THE MOTOR WORLD Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday
at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R.R.

LOWEST RATES FAST TRAIN SERVICE

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

THE CYCLIST
BICYCLING AND TRICYCLING
REVIEW

The Authority of the Cycle World

RELIABLE NEWS

ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.
Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Through all Bookstalls and Newsagents or from the
Publishers

ILIFFE & SONS Limited.
3, St. Bride Street, London, E.C.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, May 15, 1902.

No. 7

TO CORNER COASTER BRAKES

Englishmen to Launch an Ambitious Project—Houk is in it.

While there seems to be no top or bottom to the American coaster brake pool which George W. Houk "discovered" during his recent visit to this country, reports from London indicate that something of the sort is in view on the other side.

As these reports have it, Albert Eadie and Charles Hyde have bought in a number of free wheel inventions, among them several which they believe to be master patents. Green & Houk and Brown Brothers are said to be associated with Messrs. Eadie and Hyde, and the effort will be made to "corner" the free wheel and coaster hub business, and to maintain prices on those specialties. The idea is apparently to attempt the levying of royalties.

The reports are rather confused, but they make claim that the parties named are negotiating with the Morrow and Universal people.

"If these negotiations are successful," says one report, "the combination will be considerably strengthened, and will affect not only the British market, but the American trade as well."

On this side of the water no information concerning the alleged combination is obtainable, and those approached appear to have no fear of any results that may grow out of such attempts.

Gridley has Only Bills.

F. W. Gridley, the former head of the Olive Wheel Co. and of several other Syracuse (N. Y.) institutions, will to-day come before the bankruptcy court for examination.

At a preliminary examination last week a demand was made for Gridley's books.

"We have no books. All we have is a bundle of bills. You can examine them," answered his attorney.

It was then decided that George D. Chapman should be named as trustee, and election was ratified. On the question of a bond for a trustee with \$500,000 of debts and

\$570 assets one attorney thought \$100 would be sufficient.

"There are no assets in sight," he said, "and if any are discovered we can increase the bond."

The \$100 bond was fixed as sufficient.

McEachern Falls to his Death.

or the second time within a year the race-track has claimed a prominent pace follower for its victim. Archie McEachern, of Toronto, was the second unfortunate. He fell to his death on the new Atlantic City (N. J.) track on Tuesday afternoon. He was engaged in a 15 mile practice spin behind a motor tandem manned by two fellow Canadians, Thompson and Boake. On the 15th mile and while going at a 1:28 pace, the chain on the tandem broke, and as was the case with the lamented Nelson, McEachern crashed into the tandem. He was pitched violently high up the banking, his neck striking a board projecting from a scaffolding. It tore open McEachern's neck and ruptured his jugular vein. He was conveyed to the hospital, but expired within twenty minutes of the accident. He leaves a young widow.

Linton's Belief-Staggering Record.

Unless cabled dispatches have committed the same error, Linton has given the hour record a distinctly Mont-Peléeish disturbance. Certainly the cut is so prodigious as to be suspicious. In competition at the Parc des Princes, Paris, May 11, he is credited with riding 71 kilometres 995 metres, or 44 miles 1,150 yards, in 60 minutes, thus creating a world's record. Robl was second, two laps behind Linton, and Elkes third. The previous record stood to the credit of Robl, who two weeks previous on the same track covered 41 miles 1,514 yards in the hour.

Like a Gift From History.

The assignee of Oliver, Straus & Co., New York, who once cut no small figure in the cycle trade, but who are now scarcely a memory, has finally wound up his affairs, the final dividend distributed last week among the creditors amounting to 5.14 per cent of their claims.

SETTLED OUT OF COURT

International Suit Amicably Adjusted—Terms not Made Public.

After one disagreement, and after the case had been called and the jury chosen for the retrial, the suit of Brown Brothers, of London, England, against George J. Capewell, William G. Allen and Charles Flint, of Hartford, Conn., which was partly tried in the United States Circuit Court at New Haven last week, has been settled out of court. An agreement was reached on Monday, and the action will be withdrawn.

Suit was brought by Brown Brothers for \$175,000. They purchased patented machinery controlled and manufactured by the defendants for the manufacture of steel bicycle spokes, and also the British rights for the manufacture of the machines. They claimed that the machinery was not as represented. The defence was that the machines were all right, but those purchased by Brown Brothers were not properly or skilfully operated. The defendants received about \$50,000 for the machines and rights sold to the defendants.

In the settlement made on Monday the plaintiffs made full acknowledgment that there had been no intent on the part of the defendants to defraud. In consideration of this acknowledgment payment of a certain amount, which is not made public, will be made by the defendants.

A. B. C. Stocks Settling Down.

There was a decided falling off in trading in American Bicycle Co. common and preferred for the week ending May 10. The total sales for the week were 4,600 common, ranging from 6 $\frac{3}{8}$ to 7 $\frac{1}{2}$, closing at 7 $\frac{3}{8}$, with a net gain for the week of $\frac{5}{8}$. Preferred sales amounted to 3,700, at prices varying from 20 $\frac{5}{8}$ to 23 $\frac{1}{4}$. The closing price was 23, as in the previous week.

Monday of this week showed sales of 1,200 common at 7, with a net drop from Saturday's closing of $\frac{3}{8}$. Only 100 made up the preferred trading. The price paid was 21 $\frac{3}{4}$, the drop being 1 $\frac{1}{4}$.

Tuesday's trading narrowed down to 600 shares of common at 6 $\frac{3}{4}$ to 7, closing at the latter figure, as they did on Monday.

CENTURY RUN BUSINESS

Promoting 'Hundreds' Placed on a Money Making Basis—Scheme of a Clever Man.

"It is wonderful how many ways man can make money when he sets about it," said a New-Yorker the other day. "Although I find there is no secret about it, I just heard a day or two ago that hereabouts the promotion of century runs has been reduced to a strictly business proposition. It is a wonder to me that the story has not been printed before.

"There is a clever fellow in one of the prominent clubs of the city who saw the opening and promptly filled it. He followed all the century runs for a while, and, becoming convinced that there was money in it, he has since made a tidy sum each year from that source. Of course I have no means of estimating the amount, but at a rough guess he must have made from \$1,000 to \$3,000 per year for the last three years.

"His plan is very simple. He has gathered the names and addresses of the thousands of century cranks in this vicinity, and is in touch with the badge makers and the hotel-keepers on the routes most frequented by centuries. When he 'needs the money,' or feels that he needs it, he approaches whichever club he may select, with a proposition to organize and conduct a century run in their name. For the use of the name he offers them 40 or 50 per cent. of the receipts. As he undertakes to do all the work, it is rare that the club does not accede to his proposition. Once a name is secured, he issues the necessary entry blanks, does the presswork, hires five or six checkers at \$5 per day, and conducts the run.

"The sources of income are more considerable than the average man would imagine. The entry fee of 50 cents or \$1 in itself amounts to a pretty figure, but, in addition to this, the promoter in question obtains a 'rake-off' from the badge makers, the souvenir medal makers, and from each of the road houses at which those who participate in his runs stop for their meals, or merely for drinks or sandwiches, for that matter. If the badge makers, medal makers or road house keepers refuse to pay him the rake-off or commission he invariably finds another maker, or another road house at which to stop, but he is now so well established in the business that few of them refuse him.

"He certainly must net not less than fifty cents per man on each of his runs, and as in the aggregate they amount to perhaps 3,000 in the course of a season, my conjecture as to the amount of his income cannot be far wrong. One run alone, which he has organized each year for the past three years at least, must net him \$500, \$600 or \$700. It is a run which so far as the public knows is promoted by one of the "yellow journals"; the entire affair is, however, in charge of the man in question, and as it is rarely at-

tended by less than 1,000 riders, you can readily imagine what a rich plum it is.

"I'm not criticising the young man at all. His is a great game, and he deserves all the credit there is in it. But as a means of livelihood, or as a partial means of livelihood, it certainly must stand as unique."

When Welles Threw up his Hands.

R. H. Welles and L. J. Keck, of the Badger Brass Mfg. Co., are in the city on one of their periodical visits. They report a distinct betterment of the lamp trade during the past few weeks, and when their \$1.50 Solar oil lamp is mentioned they smile smiles that are expansively significant. It was brought out to meet the Eastern demand, which hesitates at the carbide burner, and there is no doubt that the demand was ready for it.

"Some one told me that they were enforcing the lamp law in New York," remarked Welles, when the conversation drifted in that direction. "The news naturally interested me. Accordingly, I kept my eyes open for verification the other night. I counted eleven bicyclists. Nine of them had no lamps, two had them, but one of these was unlighted. Shortly afterward a bicycle policeman came along. He had neither lamp, bell nor brake. When I saw him I threw up my hands and quit."

Motocycles as Drawing Cards.

Whatever may be said of them, the department stores are usually keenly alive to all occasions, and the keenest of the class are not now slow to appreciate the drawing power of motor bicycles. Brooklyn furnishes an illustration of the sort. Until last week the Matthews store had a Mitchell motor bicycle featured in one of its show windows, and that particular window was always surrounded by a crowd. The Matthews's near neighbors, Abraham & Straus, noted the attraction, and this week have a Royal in their window, and hold the crowd, the bicycle display having been removed from their rival's window.

Hansen has Tall Task in View.

Advices from Minneapolis say that "Rain-maker" A. A. Hansen, the veteran bicycle rider and dealer of that city, will set out to ride 1,000 miles on a motor bicycle during the month of June. The primary intention is to demonstrate the endurance of the motor bicycle, as only one wheel is to be used for the entire ride. Hansen expects to cover the distance in about fifty hours. The ride will be made over the same course on which Hansen made his 1,000-mile record three years ago.

Recent Incorporations.

Chicago, Ill.—Graham Cycle Co., with \$2,500 capital, to manufacture bicycles and accessories. Incorporators, Charles E. Graham, H. E. Vanderslip and Charles E. Sellick.

Cincinnati, O.—Norwood Bicycle Co., change of name to Norwood Machine and Mfg. Co.

FIRST AMERICAN TOURISTS

On Motor Bicycles, of Course—They Sail Tuesday for 10,000 Mile Tour Abroad.

The first American tourists to employ American motor bicycles, and who have in view the most extensive tour yet attempted on that type of machine, will sail from New York on Tuesday next.

The tourists are O. E. and Leo Schnitzspahn, of Buffalo. Their itinerary is ambitious. It takes in the British Isles and all the principal countries of Continental Europe—roughly, about 10,000 miles. Five or six months will be devoted to the tour—that is, "if all goes well with our motors," adds Mr. Schnitzspahn.

The tour is undertaken entirely for pleasure, Leo, of the brothers, being an artist and being bent on obtaining foreign impressions. The tourists will use specially made bicycles with Thomas motors and equipment, and having gasoline tanks of six quarts' capacity.

Fire Visits Funke.

Fire which broke out at 3 o'clock Monday morning in the Boker building, 103 Duane street, this city, destroyed everything but the iron frame work of the building. The total losses are variously estimated from \$250,000 to \$400,000.

A. H. Funke, who has long been identified with the bicycle sundry trade, was one of the chief tenants of the building. His losses have not yet been stated. Insurance was carried for \$35,000 on the stock and \$1,500 on furniture and fixtures.

Almost a Mid-Summer Model.

The launching of a new model at this season of the year is in the nature of an event, and for that reason the Orient Model 999, which the Waltham Mfg. Co. are just announcing, should make it stand out like the proverbial "house afire." The equipment, weight and price (\$40) are a combination, coupled with Orient workmanship and reputation, calculated to make the cycling mouth water.

Salesman Discouraged a Sale.

"I wouldn't use toe clips if I were you," said the salesman to a prospective purchaser. "Once you get used to them you cannot get along without them."

This was the advice overheard in a New York cycle store by a Bicycling World man. Whether the salesman was promoting his employer's interests would seem to admit of no question.

Racine to Boston on a Motor Bicycle.

J. F. Judin, physical director of the Y. M. C. A. in Racine, Wis., has left that city for a cross country trip to Boston. He is riding a Mitchell motor bicycle, and will make a leisurely jaunt of it. At that, however, it will be the longest trip ever undertaken by a motocyclist in this country.

COASTER BRAKE WINS

Unexpectedly Out-Coast Fixed Gear in First Formal Contest—Event Stirs up a Semblance of Old-Time Rivalry.

It isn't violating any confidences to state that at least some of the people concerned with the manufacture of coaster-brakes did not view the Metropole Cycling Club's coasting contest with entire relish—that is, previous to the affair. It is different now.

The winner turned up in the person of Fred Buehler, who used a Barwest coaster-brake, and who weighed but 152 pounds. He beat out the second man, E. J. Dixon, a 225-pounder on a fixed gear, some 22 feet. The third and fourth men, W. J. Cox and C. C. Hildebrand—both, singularly enough, are old St. Louis riders—weighed, respectively, 150 and 143 pounds, and the one used a coaster-brake, the other a fixed gear, Hildebrand's mount being a chainless.

The rules governing the event required the two men using coaster brakes and the

3,160 feet. In the heat with Buehler he fell more than 100 feet short of this, doing but 3,053 feet 4 inches. Buehler, on the hand, bettered his trial coast of 3,062 feet 2 inches by 26 feet 2 inches.

The hill itself is a "teaser." It is safe rather than steep. From top to bottom it measures 2,349 feet. A 3 per cent grade brings up rather suddenly on the "teasing" part—a 1 per cent incline where speed was greatly reduced, and where the men usually and despite themselves slowly parted company. The 1 per cent drops rather abruptly



1. MEASURING BUEHLER'S COAST. 2. SCENE AT THE FINISH. 3. JUDGE OATMAN (REAR VIEW) USING PLUMB BOB. 4. FINAL HEAT BETWEEN DIXON AND HILDEBRAND, DIXON JUST COMING TO A STOP, HILDEBRAND FALLING SIDEWAYS. 5. LOOKING UP THE HILL.

The event occurred on Saturday last on Lafayette Boulevard, a new and magnificent driveway that overlooks the Hudson River in the upper part of New York City. It was the first event of the sort run since the boom days, and the first in which the coaster-brake ever had competed against the fixed gear. There was little speculation as to which would win. By the wisecracks the fixed gear was reckoned a "sure winner." But the fixed gear did not win, nor did a rider of heavy weight—another popular supposition and theory.

two using fixed gears who made the longest coasts to be paired in final heats. This in order to prevent the contest being won on a fluke of any sort, and to force the winners of the four bicycles which were offered as the principal prizes to compete under exactly similar conditions of road and wind. As things turned out, two of each type of gear qualified in exact order for the finals.

The final for coaster-brakes proved Buehler to be the more consistent performer. In his trial Cox, aided by a favoring puff, covered the greatest distance of the day,

to a sharp 4 per cent descent which gave the competitors swift flight to the gently rising straight which marked the finish. Started in pairs to give the contest an element of man-to-man competition, the varying grades made possible a variety of "struggles," the result of which no man could change by so much as a movement of his body.

There were several really sharp tilts, but none more interesting than the final for fixed gears between the lightweight Hildebrand and the heavyweight Dixon. Had they been

(Continued on page 206)



Confirmation strong as proofs of holy writ.

We get confirmation every day of the truth of our old saying, "A National Rider Never Changes His Mount." As one of our customers told us some time ago, "The trouble with a National is, it never wears out." The following letter is a good example:

NATIONAL CYCLE MFG. CO.,
BAY CITY, MICH.

BLUFFTON, IND., March 15, 1902.

GENTLEMEN:—I have a National bicycle which I bought new in 1897. Its number is 4556. The frame of the wheel is about as good as new, and I am fixing it up so as to last another season or two. Will you please send me *at once* two cones for hind wheel, one cup for crank hanger, one seven-tooth sprocket wheel, felt washers for crank hanger and hind wheel. Also send me six dozen anti-rust, three or four ply spokes.

My wheel has worn remarkably well, and I can have almost a new wheel by a little expense. Send bill with order and I'll remit at once.

Respectfully,

F. C. WHITCOMB, PRINCIPAL,
Bluffton High School.

Why are **FISK TIRES** Better than all others?

Because—

They are made by skilled workmen.
They are made of the best material.
They use special fabric which makes
their construction unequaled.

TRY THEM AND YOU WILL USE NO OTHERS.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTOCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday
By
THE GOODMAN COMPANY,
123-125 Tribune Building.
(154 Nassau Street)
NEW YORK, N. Y.
TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] **\$2.00**
Single Copies [Postage Paid] . . . **10 Cents**
Foreign Subscription **\$3.00**

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, MAY 15, 1902.

To Increase Enthusiasm.

To those in the trade and out of it who seek to further the renewed interest in cycling we commend coasting contests as being admirably adapted to serve that end.

The interest in the contest in this city on Saturday last and the publicity and discussion that have followed it were sufficient to justify our urging; in a smaller community a coasting competition would serve even greater ends.

The fact that contests of the sort necessitate no training, as the term is generally understood, and entail no pushing, panting or perspiring, and that they may be partaken of by all sizes, ages and conditions of men, mark them out as "popular events."

While coasting contests may not be exactly new, the New York affair inaugurated several new practices, which, with the presence of the coaster-brake, lend to them an added interest and timeliness that are not to be denied.

Last Saturday's event was full of instructiveness, too. It settled for all time that

the coaster-brake requires no odds of the fixed gear. There was much doubt on the point, and, now that it is settled, if the coaster-brake does not come in for further reaping and advancement it will be more than surprising.

Up as Well as Down.

Whatever goes up must come down; that is a saying the triteness of which is generally admitted. But its converse—that whatever comes down must go up—is very far from being equally true.

Witness prices in the cycle trade. They have been coming down, ever since that memorable day in 1893 when the word went out through the land that Warwick \$150 bicycles had been reduced to \$85. The following year, 1894, several concerns of the first rank broke away from the magic \$150 price which had been considered as immutable as the laws of the Medes and Persians, and set the figures at \$125.

After that even the boom years could not stop the successive reductions which took place. By 1899 the \$50 point for chain machines had been reached, and from that depth no recovery seemed possible.

But there has been an appreciation since then in the prices of other patterns, if not in chain machines. Chainlesses, coaster-brake and cushion frame machines, and occasionally special wheels—for all of them have been asked and obtained figures in excess of what has come to be regarded as the standard. Nothing but undoubted and unusual excellence in these departures could have accomplished this.

This season there is a noticeable stiffening of prices. For the first time in years there is a good, sustained demand for nearly all grades, and the usual overproduction is conspicuous by its absence.

The most gratifying part of it all is that the best, i. e., the highest priced, machines, have proved to be the readiest sellers.

Scarcely a dealer can be found who does not report a marked increase in the proportion of his sale of "specialties" as compared with the standards. Purchasers who a few years ago would have thought of nothing but the \$40 or \$50 grades are now allowing themselves to be persuaded that there is really increased value in the top-notchers. Even the \$80 kind go off with an approach to alacrity that is extremely gratifying.

In the British trade the tendency to recover from the low average of prices which at one time threatened to sweep everything

before it has been much more pronounced.

There the best chain machines cannot be purchased for much less than \$100. Furthermore, there are plenty of others which bring \$115, and even \$125, while the \$75 class scarcely ranks better than medium grade. Take it all in all, the prices are probably 50 per cent. higher than here; this for chain machines, of course.

In view of the fact that prices in this country dropped ruinously low a few years ago, a partial recovery may not unreasonably be looked for.

The Saturday Half-Holiday.

Next month comes the reign of the roses. Then bright hours, blue skies, "green fields and running brooks"; then warm, sultry days; then hot, enervating, stifling periods when labor means suffering and the night exhaustion.

If the calendar yields the usual results we may look again for hot times, more or less unbearable, and extending through the months of June, July, August and September.

The growing practice of giving Saturday half-holidays, during the heated term, to employes is one which has sound reasoning of profit in it for all concerned.

It is well and wise to get away from the daily routine of the office and shop, into an atmosphere of different influences and of pleasant recreation. Re-creation is indeed essential to life. When we put the hyphen into the spelling we can see it is so.

The typical American business man is one of overwrought nervous system. He is restless and energetic, forever active and planning.

In the past his working hours have been too long, and we welcome the fact—for fact it is—that there has been a steady popular growth of public sentiment in favor of more frequent breathing spells.

They are better workers who come back to their Monday duties from a weekly outing, and, rationally indulged, than the cycling outing there is none more delightful.

What Brings Success.

The successful storekeeper is usually a richly endowed man. It is not sufficient for him to possess some of the qualities which enable a man to win; he must have them all, must round out the matter to a nicety, if he would hope to seize the coveted reward.

One man may possess the faculty of attracting the attention of people to himself

and his store; he may be, in other words, a good advertiser.

Another may be able to turn prospective purchasers into customers just as soon as they enter his store. His goods are right, are presented in an attractive manner, and the prices are of the tempting kind. All that is needed, therefore, is the influx of possible buyers.

But if the latter do not come the second tradesman is no better off than the first one would be if he was unable to interest people after they had entered his store.

If a third man should happen to combine the qualities of the other two, he, and not they, would prove to be the successful man, and everything that he touched would turn to gold. Yet there would be no mystery about the matter. The reasons for his success would be as plain as a pikestaff, and few would fail to read them.

In the cycle trade are found men who are in the first two categories, together with some who are destitute of both of the qualities referred to.

In the first class is the man who, upon taking the agency for the sale of a motor bicycle, for example, places it in his window and attracts wide attention thereby, or puts it in a stand on his floor and accomplishes the same object by running it at frequent intervals. He has no lack of attention. That the majority of the onlookers are actuated by curiosity alone makes no difference. The advertisement is there, and a certain proportion of interested persons is certain to be included.

But that same man may fall down utterly when it comes to taking advantage of the good advertising he has obtained for himself.

He may think that he has done all that is required of him when he has made it known that the Blank motor bicycle can be procured from him. Or when he answers whatever questions the prospective purchaser may ask.

Just the reverse is the dealer who undertakes the sale of such a revolutionizing machine as this, and then sidetracks it by keeping it where it can be seen only by asking for it, or lets it get out of order and then runs it in the repair shop until such time as he can get a chance to fix it. When an interested person comes in and asks to see the machine he is led through a mass of disabled wheels to some corner of the repair shop and stands by while the dealer makes an effort to get it to running.

There are plenty of such dealers, and their

shortcomings are revealed in other ways than through motor bicycles. But the latter are the newest things, and the dealer's laches in regard to them show up much more prominently.

As to the Weather.

An abnormally low temperature has so far marked the present spring, but it has in other respects been an exceptionally fine one. Little rain has fallen, and a phenomenally large number of bright, sunshiny days have succeeded each other, sometimes extending in unbroken ranks for a week or more.

The clerk of the weather has thus placed the trade under huge obligations. Meteorological conditions do not in themselves make a good selling or riding season, although they can undoubtedly mar one. But it is beyond question that they can do much to coax a doubtful season over the line that separates success from failure, or turn a moderately good season into an emphatically excellent one.

So it has been this spring. The bright skies have tempted hundreds and thousands of riders who might, and probably would, have held back had there been gloom aloft.

On the other hand, it is not to be gainsaid that warm weather—provided it is not of the torrid kind—is beneficial to cyclists rather than otherwise. As racing men never reach the pink of condition until the heat penetrates every part of their frames, every muscle, every joint, so the average rider never feels quite at home until the breezes have been tempered and the chill taken out of the air by the approach of summer.

It need scarcely be said that nothing would help along the present revival more than a few weeks of moderate and seasonable warm weather.

Automatic Men vs. Automatic Machines.

It is not machines but men that do the work of the world. Tools may be ingeniously contrived to do in minute detail and in untiring repetition what they are set to do, but they are still tools and the instruments of man's will. Will is the driver, and the ultimate determining factor in prolific production. Will has made the modern tool largely automatic.

Where the tool was in the olden time driven in its cutting and guided in its every movement by the human hand, the occasional glance of the eye and here and there the touch of a finger are all that are now required to keep it going. But the finger touch and the look of the expert had first to be

most thoroughly quickened and educated. The automatism of the machine is begotten of the automatism of the human factor, the man.

There are men who are non-automatic, and others, again, who are automatic in various degrees. There are men, all too common and plenty, who must be told precisely what to do and how to do it, and who also are not ready to move until the speed has been fixed at which it is to be done, so that they may by no possibility be accused of thinking and thereby increasing their speed—their value.

These surely, whether so born or so debased by habit, are not the automatic ones. They don't go because of themselves, but have to be driven and operated like an old fashioned hand lathe.

There are those of the other class, who set out to do what they can just the best they can, who never try to know what they can do until they try, and to whom better and speedier ways are revealed as they advance. The doing of things is to them never to be in a fixed and unchangeable way, nor at an unvarying rate. They are entirely without bumps of reverence or tradition.

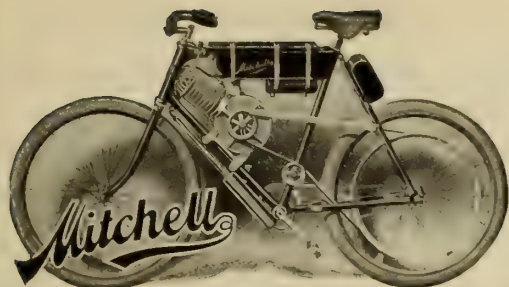
These are the self-acting, the self-driving, the automatic ones. To-day sees better accomplishment than yesterday, and to-morrow still better than to-day. They are iconoclasts.

The stimulus and inspiration for automatism in men are in the promise or the prospect of increased remuneration. A fixed classification of men and a fixed rate of wages for each in any class, and this rate secure to the men at their present gait, with no higher rate of earnings in sight for more or better work, is a condition not likely to quicken things.

It is of considerable importance to know not only how much a machine can do, but also how much it habitually does, or else those not familiar with its use, but who are all too familiar, and who have been all too contented with the old jog trot, may be satisfied with an inferior rate of production.

The owl has acquired a world-wide reputation for wisdom. He did it by merely sitting still and saying nothing.

The business man's sagacity, good judgment and commercial wisdom constitute a valuable asset or capital. He (the average he) would often enjoy such reputation in larger measure were he to imitate the owl, which shows wisdom—by not displaying the lack of it.—(Ex.



....A....

Motor Bicycle

WHICH MOTES.



We may not have the **LARGEST** factory in the world, but we **ARE** making **PROMPT DELIVERIES** of the above quality of machines.

A. A. HANSEN, our hustling Minneapolis agent, rides 134 miles on his Mitchell to test it in muddy and rainy weather. **RESULTS**—Several good orders landed the next day. Were his competitors out? **NO**. Did they take orders? **NO**.

WISCONSIN WHEEL WORKS,
Racine, Wis.

MILLER, IND., MAY 6, 1902.

GENTLEMEN:—I have now had my "Mitchell" motor cycle which I bought at the Chicago Automobile Show long enough to test its merits and must say it has given me excellent satisfaction, and it seems to grow better each time I use it and it is certainly all and more than I expected. The motor has far more power than I will ever need and I find it very simple and easy to operate and manipulate.

I have had occasion to ride it through sand for a considerable distance where it was utterly impossible to ride an ordinary wheel, yet it carried me through without any assistance by pedaling.

Wishing you the success, which the "Mitchell" so well deserves, I remain,
Yours truly, CHAS. F. BLANK.

WILLIAM HEYSER,
Oyster Packer, Foot of Gay Street.

HENRY VAN ARSDALE, ESQ.,
New York.

BALTIMORE, MAY 5, 1902.

DEAR SIR:—I purchased a Mitchell Motor Cycle from you two months ago and am pleased to say it has given the very best of satisfaction. Have given it some very severe tests and it has far exceeded all my anticipations and expectations both as to speed, endurance, economy and easy management as well as comfort and pleasure.

Respectfully,

HARRY H. HEYSER, No. 2133 Callow Ave.

One Mitchell Agent says:

"I believe I can climb the house roof with my Mitchell. It never balks or fails."

Manufactured by **WISCONSIN WHEEL WORKS, Box W, Racine, Wis.**

See samples at following General Agencies:—HENRY VAN ARSDALE, 7 & 9 Warren Street, New York City; GEO. S. ATWATER, No. 8 Merrimac Street, Boston; WHIPPLE CYCLE COMPANY, No. 260 West Jackson Boulevard, Chicago; MITCHELL, LEWIS & STAYER CO., PORTLAND, ORE.; SMITH & ZIMMER, MINNEAPOLIS, MINN.; H. G. FITLER, 204 North Broad Street, PHILADELPHIA; J. H. ISHAM, 542 Ellicott Square, BUFFALO, N. Y.; RAWLENS IMPLEMENT CO. 290 South Charles Street, BALTIMORE; COLUMBUS AUTOMOBILE EXCHANGE, BOSTON. HARRY GEER, 1017 Pine Street, St. Louis; THE BRUNETTE CO., SAN JOSE, CAL., Coast Agents.

The "BUFFALO" CAR with TONNEAU ATTACHED.

BOSTON HEADQUARTERS, 243 Columbus Ave.

NEW YORK HEADQUARTERS, 29-33 West 42nd St.

"BUFFALO TONNEAU"



Model 15. Price, \$900.

A Four-Passenger Car.

LARGE ROOMY SEATS.

6 Brake Horse Power Motor.

CLIMBS 25% GRADES.

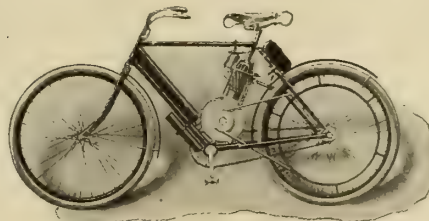
SPEED—6 to 25 miles per hour.

Luggage Box for Touring.

DOUBLE ACTING BRAKE.

"AUTO-BI"

THE ORIGINAL MOTOR CYCLE.



Model 4. Price, \$175.

Includes modern features usually found on \$2000 cars.

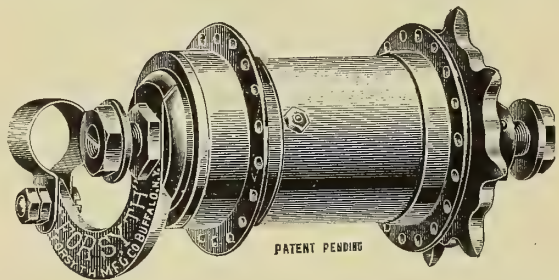
THOMAS WORLD RECORD MOTORS.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, 1200 Niagara Street, Buffalo, N. Y.

IF YOU HAVE NOT

familiarized yourself with
the exclusive features of

The Forsyth

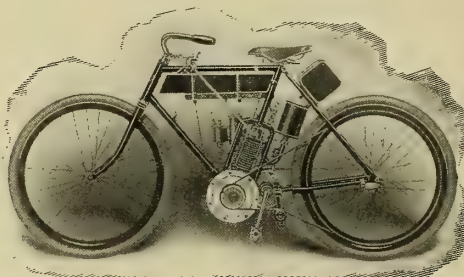


You are simply permitting money to slip through your fingers and doing a lot of talking in trying to sell inferior coaster brakes that you can easily avoid.

FORSYTH MFG. CO., BUFFALO,
NEW YORK.

THE MOTOR BICYCLE

sold by a firm who has confidence enough in its product to sell it on the condition that if not satisfactory it may be returned and money refunded.



We can give you the names and addresses of scores of agents who have received the 1902 HOLLEY, and will gladly testify as to its merits.

HOLLEY MOTOR CO., 10 Holley Ave., Bradford, Pa.

Divine Opinion of the Royal

UTICA, N. Y., April 4, 1902.

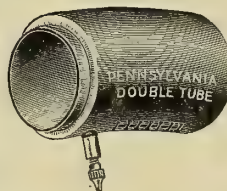
ROYAL MOTOR WORKS,
29-33 West 42nd St., New York, N. Y.

DEAR SIR:—

I am pleasantly disappointed in the operation of the Royal and also am well pleased with the unusual fine class of work in the construction of the machine. Central New York weather in March is anything but glorious but I have had the motor running every day for the past two weeks and have not in a single instance as yet dared to run it at its highest speed. Medium speed is good enough for me and I run around the city at better than twenty miles an hour and run from my house to the factory, a fraction over three miles, in ten and a half minutes. I ran four and a half miles a week ago Sunday on asphalt pavements, up and down hills, in twelve minutes. I go through mud, dirt, bumps, pitch holes in the pavements, practically any old thing, without stopping, and the machine goes along in its own glorious little way without any trouble at all. I run around the city "hands off" and find the weight of the motor is so distributed as to make it unusually well balanced. It is extremely easy to take care for and so far has not had the same degree of attention as I have found necessary to keep an ordinary high-grade, light bicycle in running order. It is handled so easily and is so simple that I have started a number of greenhorns on it, gave them a shove, told them to pull up on the compression lever, and started them off on a ride and they all came back happy and enthusiastic over the speed and comfort of your motor bicycle.

Very truly yours,
B. H. DIVINE.

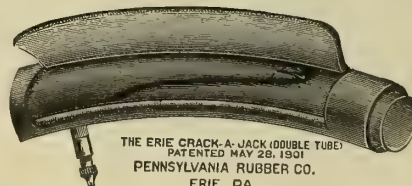
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK (DOUBLE TUBE)
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK CHICAGO BOSTON
BUFFALO PHILADELPHIA



FOR PSYCHOLOGISTS

Punctures That Follow Boasting Suggest a Field for Research—An Instance.

"Don't hallo before you are out of the woods' is an old saw that runs in my head. And that is just what I did. I bragged a little too much about my immunity from tire troubles, and the inevitable result followed," remarked the veteran.

"You remember that I told you I had got into the habit of riding without either pump or repair outfit? Well, I did it once too often and came to grief.

"It was this way: I got out the tandem on Sunday and started for a little ride. It was the first time this season I had been on the two seater, and after we got going it was very nice. The old crock ran smoothly and easily, in spite of its seven years of service. Barring a little wind, the day was almost ideal—just cool enough to make a little exercise pleasant. The roads were in fine condition after the rain of a couple of days previously, and were just swarming with cyclists. It made me feel as if the old days had come back again.

"We were going up a slight grade when an exclamation from the better half attracted my attention.

"The front tire is down,' was her remark, brief but to the point.

"I looked, and, sure enough, it was. It had come down suddenly, for it was all right on starting. It must be a puncture, for there was still some air in the tire, so it could not be a burst. And I had neither outfit nor pump—nothing in the way of tools but a wrench.

"It was the first tire trouble I had experienced in two years. That fact, however, only made the matter seem worse. I was not used to such mishaps.

"There really seemed to be a fatality about it. I suppose I carried pump and repair kit for a year and a half after I had occasion for them; nothing ever happened. But now, just when I was the worst fixed, calamity had to come. A psychologist ought to make a study of the matter and figure out why these things always happen.

"Well, there was really nothing to do but to seek help. Fortunately, I was near a repair shop, and I wended my way thither, rather downcast, and wondering if I could get quick service, and thus finish my ride. The chances were against me, I thought, on a Sunday like this one, but it was worth trying at least.

"As the event proved, I was exceedingly fortunate. I found a repairman who was obliging, skilful and rapid. Without taking the front wheel from the forks he tested the tire in a tank and soon found the cause of all the trouble. There was a small puncture, just as I had feared, but no sign of the puncture maker. The water bubbled through the hole at a great rate.

"It was a genuine pleasure to see the man work on the tire. Just for fun I took out my watch as he started and timed him—without his noticing, of course.

"He punched the hole through and enlarged it, cleaned and burned it out, put a plug in it, cemented it fast, cut it off and burned the edges, and pumped up the tire and turned the machine over to me—all in the short space of ten minutes.

"There, that will hold you,' he remarked as he took my quarter. He proved to be a true prophet, and I never spent a like sum of money with greater satisfaction."

Ins and Outs of Handle Bars.

About every so often the comment is heard that there aren't any changes in bicycles nowadays, that they have gotten down to a dull, same all-round level. Perhaps this is true from the standpoint of those superior mortals who never look at anything except in a "large" way, having no eye for such minor things as mere details. That it is not specifically true is shown by the following, from the pen of an old-time old-timer:

"Have you noticed how history is exactly repeating itself in the matter of handle bars? When boneshakers were first introduced they had wide handle bars, which were in themselves a chest-expanding exercise to hold them. Then came the ordinary, which was at first built with handle bars like the top of a corkscrew. These were gradually expanded almost to boneshaker limits. The safety started where the ordinary left off, and there was hardly room for two of the first safeties to meet in a narrow road. Then they got contracted, until two years ago I was supplied with a machine that I knocked my knees against the handle grips every time I tried to turn round, and I had to bow my leg like a contortionist's to get round at all. Now I see handle bars are spreading again, and I should really like to know what is supposed to be the really correct width."

The Right Kind of Weather.

Thursday of last week was an ideal day, and the evening was, if anything, even more charming. Allured by the mellowness in the air, hundreds of riders of both sexes were out awheel, their lamps gleaming in rivalry with the electric street lights. It was faintly suggestive of the days of Auld Lang Syne.

A group of New-York tradesmen were standing, watching it all.

"This is the sort of weather that brings the wheelmen out," said M. L. Bridgman, "and they are coming in greater numbers every week. We have been very fortunate in the weather this year."

"Yes, that is true," remarked Elliott Mason. "It is really the best spring we have had for four years. Last year and the year before were absolutely spoiled by bad weather. It rained and rained, until it seemed as if there never would be any let-up. But we have no reason to complain this year."

BARGAIN SALES

How to Clear up Odds and Ends—Some Seasonable Suggestions on the Subject.

The warm days of May suggest house-cleaning thoughts to the good housewife, and should do so to the good storekeeper as well. In the process of renovation, cleansing, repainting, scrubbing and general rejuvenation there is always an accompanying fact of clearing up—of "good riddance" to much that has grown to be but rubbish, says the Business World.

The thrifty housekeeper recognizes the need of disposing of such stuff, and does so to her own comfort and the advantage of the ragman.

The wise shopkeeper will also take occasion to "clean house" and dispose of accumulated articles and materials which are growing less and less valuable as time passes. This may be done to his advantage and with public interest.

Some time since there was inaugurated what is now widely known and adopted into the planning of many merchants, "The Bargain Counter."

Every keeper of a store will find it to his advantage to personally (if necessary to thoroughness) conduct a little tour among the dark corners, under the piles of accumulated matter, behind the boxes and beyond the dark and dust of what is apparent, to those hidden things which ought not to longer remain concealed, and which may the most easily be disposed of if disposed of promptly.

He may establish the "Bargain Counter" in some prominent corner, and gather upon its enticing surface, displayed effectively, all the truck and tackle and odds and ends to be found. These should be carefully dusted and made presentable, and only such number of duplicates left in sight as will look attractive. A half a dozen (more or less) of a kind, with others left out of sight ready to show as the sales make necessary, may be better policy than to heap up quantities. Conditions will decide that point, however.

But it sometimes pays to try the thing declared impractical and useless. Many a man has gained quick riches by adopting "foolish" methods, viz., those which were said to be such by convention lovers. The fact is, originality will "get there" quicker and oftener than conservatism and convention if it is originality with vital force guided by instinct. Independence is our heritage. We have the right to use it when we are strong enough to do so. But the usual means of disposition are sufficient if nothing new strikes the fancy, and will quite surely prove beneficial in connection with May house-cleaning in every shop.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

ANNOUNCEMENT

SPECIAL N

THE HIT OF



ORIENT PATH RACER

The Best Wheel for

Forward Extension Handle Bars. 1 3-8 inch Palmer or Ha
with Toe Clips. Frame, 20 or 22 inches. Cranks, 6 1-2
Enamel with ORANGE Head. Rims, ORANGE and Maro



WATCH FOR THE

Agents Wanted Everywhere. Write for Trade Prices.

TWO OR MORE IN ONE

Hubs Giving More Than one Size Gear Popular in England—Their Advantages.

Multiple speed hubs may be a future equipment, in the way of an option, in this country, as it is now in England. That a rear hub having, say, two or three sizes of gear would be a good thing would seem within reason when the matter is gone into understandingly. Taking any mechanism that comes in for wide use, a little thought will call to mind that almost without exception they are designed to give various speeds for the varying work they are called upon to do.

To bring the matter nearer home, however, two familiar examples can be used. In walking on the level a person's strides will be of a measurement quite different from those which would obtain in walking down or up hill. It will be found to be notably fatiguing to keep the same stride either down or up hill that is customary on level surfaces. The variations are made unconsciously. The other instance, and the one more directly applicable, is the changing of the speed gears on a motor vehicle in climbing hills, where the intermittent gasoline engine is used.

It is well known that if the high speed gears are kept on, except where abnormal power and a plurality of cylinders are the equipments, the grade will eventually "kill" the motor. Nominally the same thing takes place with a bicycle rider when climbing a hill. The power he delivers is in two parts, each somewhat less than half a rotation of the crank axle. On a level grade he is equal to a given gear. Assuming that he rides full up to this given gear on the level grade, it stands in reason that on an up grade, the leverage being the same and the weight increased, that power must also be increased to give the same surface speed. It goes without saying that the result is always one thing, a reduction in speed, and usually this is accompanied by a certain loss of power. Or, to put it in everyday terms, hill climbing is more or less fatiguing with the gears now in general use.

On the other hand, most riders will agree that the old time low gears would also be fatiguing in a long ride on generally level roads. Taking all these factors into consideration, it would appear a reasonable proposition that for all around riding a bicycle fitted with a two speed gear would add to the comforts of riding. For any extensive testimony along this line at the present time it is necessary to look to England, and there it seems to be the unqualified opinion that the combination is decidedly a good one.

It should not be understood from this that the two speed hub is new or that it has never been tried in this country. Reference to the bicycle journals of 1894 and 1895 will show that at that time two-speed hubs were then fighting for a recognition that was not

given them. Why they failed then, should they become generally popular in the seasons to come, is a question for students in Aristotelian cause.

Whatever the conditions in this country now or to come, in England there is being done a large business in hubs having two or more speeds, or "gears." One of the neatest of these is known as the Garrard, which presents a particularly neat external appearance, having a disk, somewhat smaller than the sprocket, placed between the sprocket and the rear fork ends. The hub itself is not altered, the device being made to apply to existing hubs.

On the normal gear of the bicycle, whatever that may be, whether the gear is 60 or 100, the back wheel and its sprocket run solid, but when a pawl drops into a notch in the periphery of the disk the high gear is put in, and the hub runs 25 per cent oftener than its sprocket. In other words, the machine is geared up 25 per cent higher than the normal gear. As an example, it will be assumed that the ratio of the front and rear sprockets give an 80 gear. When the two speed gear is in operation this normal gear is increased to 100. This change is effected by an epicyclic train—that is, a set of small toothed or cog wheels that are contained in the shallow drum of the disk. For coasting either gear can be thrown out.

The trouble with most two speed gears has come from the necessity of slowing down when changing from one gear to the other. It is claimed that in the Garrard the changes can be made under any conditions, either while coasting, pedalling lightly or driving hard up hill. The device is also made in combination with a coaster-brake.

What Nature Teaches Merchants.

The grass has turned green—it always does in the springtime. Nature is ever timely in all her works.

Man, and especially the business man, should take the hint and try to be seasonable in all his doings.

One of the stronger faculties in mankind is that one we call curiosity, which gives an interest to the advent of new things. The merchant who recognizes this truth and meets its obligations keeps himself and his business constantly in the public eye, says the Business World.

The year turns the kaleidoscope of the seasons, bringing something fresh and new. The earth is ever changing, and so are the waters under the earth. Nothing stands still. The physical world moves, round and round. The business world moves, too, but not merely in a circle. It advances bodily. We stand on a higher plane to-day than we did even a year ago. The pace quickens. We recognize that we must keep step with the new hour's demands, and one of these is the demand for "something new." Satisfy it legitimately—and prosper.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

THINGS THAT AGGRAVATE

One is the Man who Does not Know how to Make up his Mind.

"The worst thing a cyclist has to encounter is the person who, when he gets in your way, never knows enough to adopt a course of action and stick to it," remarked the Growler, who was plainly in a bad humor.

"I had two experiences of the kind last week," he continued. "The first was in a measure excusable, for the offender was a child who could scarcely be expected to have a mind to make up. He came out from behind a big furniture van, just when I had been crowded over toward it by another van of like immensity, and could not see him until I was only about eighteen inches from him.

"The first van blocked the way to the left, so I sheered off sharply to the right, expecting the urchin to check his speed, as he was scared half out of his wits by the sight of me. But he did not check. He kept right on, at increased speed, plainly convinced that the only way to escape destruction was to outspeed me.

"I was going very slowly, but the distance separating us was too short to stop in, so I kept sheering off until I was almost at right angles with my former course. Then the boy struck the machine and fell, while I scrambled to my feet and picked him up. He was not hurt; he was crying, of course, and a slight bump was coming on his forehead where the handle bar had hit him; but the skin was not broken, and I knew he would be all right in a few minutes. So I got on my machine and rode away.

"The other case was more trifling, but also more aggravating.

"Going along a crowded street, a man started to cross over in front of me. Had he not looked and see me, I could have passed him without any trouble, for I had gauged the distance and knew just which side of him I intended going. But he looked, and that was his undoing.

"First he stopped and half drew back; then he changed his mind and started forward, thought better of that and danced a jig in front of me. When I finally did squeeze by him he gave me a look as black as a thundercloud and muttered something about my not having a right to be on the street. I was mad enough to charge him full tilt. But I rode on and took it out in thinking instead.

"I suppose, of course, you can't help meeting such people. But it is aggravating, all the same."

Well Worth Obtaining.

The Wisconsin Wheel Works, of Racine, have just issued a revised edition of their motorcycle primer. It contains thirty-two pages, and is much more comprehensive and elaborate than previous issues. The information and "tips" it conveys make the little book of value alike to the experienced and to the novice.

COASTER BRAKE WINS.

(Continued from page 195)

exerting muscular effort instead of remaining motionless, it could not have been more nip-and-tuckish. They passed and repassed each other at least three times, and rushed down the last and steepest part of the hill abreast. But Dixon forged slowly ahead at the finish, and won by 17 feet 8 inches.

As each man came to a stop and fell sideways, a judge grasped his wheel and noted the finish by suspending a plumb bob from the front axle. There was an interested crowd at both the top and the foot of the hill, and each time a long mark was passed there was an excited rush to the new spot as if a diamond had been found. The weights of the men and the coasters or bicycles used and the many other theories and conditions

of coasting aroused discussions that were reminiscent of the "good old days."

But how the coaster-brake would fare was the paramount concern, and it was of sufficient interest to draw to the scene a sprinkling of trade people who are not wont to interest themselves in cycling competitions of any sort. Two New Departure men came down from Bristol, Conn., to compete. One of them, De Witt Paige, slid into twelfth place, but the other, E. J. Shalk, was disqualified for pedalling. His action seemed unaccountable, and was unfortunate, as he finished well to the fore, with a coast of 3,031½ feet to his credit.

Of 61 entries 58 started. There were 32 prizes, and of the number the coaster-brake placed 15 to its credit. The first 10 places were equally divided between fixed gears and coaster-brakes.

The positions and performances of the first fifty men follow:

—Distance coasted—

Position.	Name.	First coast.	Final heat.		
		Feet. In.	Feet. In.	Bicycle.	Coaster-brake.
1.	Fred Buehler, New York.....	3062	2	3088	4. Adlake.....Barwest.
2.	E. J. Dixon, New York.....	3067	4	3066	8. Tribune.....Fixed gear.
3.	W. J. Cox, New York.....	3160	..	3053	4. Crunden.....A. B. C.
4.	C. C. Hildebrand, Met'pole C. C.	3065	4	3049	.. Columbia ch'less..Fixed gear.
5.	R. J. Leach, New York.....	3059	4	..	.. Stearns.....A. B. C.
6.	L. L. Miner, New York.....	3026	2	..	.. Adlake.....Fixed gear.
7.	E. A. Shedd, New York.....	3023	..	..	.. Yale.....Barwest.
8.	F. L. Dixon, New York.....	3008	..	..	.. Tribune.....Fixed gear.
9.	L. E. Sampson, New York.....	3001	8	..	.. Barnes.....Fixed gear.
10.	R. H. Hance, New York.....	2992	..	..	.. Adlake.....Forsyth.
11.	C. S. Dixon, Royal Arc. W....	2967	..	..	.. Tribune.....Fixed gear.
12.	D. W. Paige, Bristol, Conn....	2956	..	..	.. Pierce.....New Departure
13.	H. G. Henshaw, New York....	2953	7	..	.. Columbia.....Fixed gear.
14.	J. F. Clairmonte, Bronxville..	2936	4	..	.. Pierce.....Fixed gear.
15.	W. F. French, New York.....	2929	8	..	.. Tribune.....Fixed gear.
16.	P. I. Leng, New York.....	2922	..	..	.. Ensign.....Forsyth.
17.	C. D. Champney, New York....	2921	2	..	.. Barnes.....Fixed gear.
18.	Dr. L. C. Le Roy, N. Y. A. C.	2918	9	..	.. Cleveland ch'less..Fixed gear.
19.	S. C. Everett, Calumet C.....	2916	2	..	.. Spalding ch'less...A. B. C.
20.	F. M. Dampman, Met'pole C. C.	2909	10	..	.. Warwick.....Fixed gear.
21.	F. Marti, Helvetia W.....	2860	8	..	.. Special.....Fixed gear.
22.	J. F. Lange, Special W.....	2854	..	..	.. Lange Special...Wyoma.
23.	D. Higgins, New York.....	2848	3	..	.. Rambler.....Fixed gear.
24.	C. Reynolds, New York.....	2841	..	..	.. Yankee Flyer...Forsyth.
25.	J. Lurie, Crescent C.....	2837	6	..	.. Columbia ch'less..A. B. C.
26.	E. H. Leng, New York.....	2833	..	..	.. Yankee Flyer...Forsyth.
27.	R. A. Barkman, Brooklyn....	2829	10	..	.. Columbia ch'less..A. B. C.
28.	B. Smith, New York.....	2819	7	..	.. ..Fixed gear.
29.	Dr. E. V. Brendon, St. Geo. W.	2811	11	..	.. Columbia ch'less..A. B. C.
30.	O. J. Spahn, Melrose T. V. W.	2810	8	..	.. Spalding ch'less..Fixed gear.
31.	S. Marcusson, New York.....	2808	3	..	.. Cleveland.....Fixed gear.
32.	S. W. Merrihew, Met'pole C. C.	2796	6	..	.. Robin Hood.....New Departure
33.	D. M. Adeo, Century R. C. A.	2793	3	..	.. Gendron.....Fixed gear.
34.	Chas. H. Fenner, Met. C. C.	2792	..	..	.. Humber.....Fixed gear.
35.	A. B. Hauck, New York.....	2789	6	..	.. Yale.....Barwest.
36.	Wm. McDonald, New York....	2779	6	..	.. Tribune.....A. B. C.
37.	E. L. Ferguson, Metropole C. C.	2769	..	..	.. Crescent ch'less..A. B. C.
38.	Will R. Pitman, Boston B. C.	2768	6	..	.. Columbia ch'less..A. B. C.
39.	F. N. Bunker, New York.....	2766	..	..	.. Pierce.....Barwest.
40.	H. Schock, Brooklyn.....	2763	4	..	.. Dayton.....Barwest.
41.	C. A. Jackson, New York....	2748	6	..	.. Eclipse.....Barwest.
42.	Chas. F. Dyd, New York.....	2736	3	..	.. ..Coaster.
43.	E. Boller, Helvetia W.....	2722	10	..	.. Wolff-American..Fixed gear.
44.	J. Beckert, New York.....	2698	9	..	.. Remington.....Morrow.
45.	T. J. Moore, New York.....	2692	5	..	.. ..Fixed gear.
46.	W. H. Mackey, Century W....	2685	..	..	.. Yale.....Fixed gear.
47.	Frank Curry, New York.....	2683	6	..	.. Dayton.....Fixed gear.
48.	Warren C. Kohler, New York..	2670	..	..	.. ..Coaster.
49.	E. L. Ferguson, Century W....	2647	2	..	.. Columbia ch'less..A. B. C.
50.	L. C. Boardman, Met. C. C....	2612	..	..	.. Columbia ch'less..A. B. C.

FIRST BRAKE TEST

Somewhat Hastily Organized but It Partly Achieved Result Aimed at.

Following its coasting contest on Lafayette Boulevard, on Saturday, the Metropole Cycling Club conducted a series of braking contests, which developed some unexpected results and one really sensational stop of 12 feet 5 inches while moving at an 18 mile pace. The contest grew out of the performances of the bicycle policemen in the stopping tests conducted by the Automobile Club of America the week before. In the latter affair three bicycle policemen participated. Although the automobile and horse-drawn vehicles were equipped with brakes, the "coppers" were minus anything of the sort. As a result, their performances were more or less ridiculous. At nine miles an hour one of them jumped off his bicycle and brought it to a stop in 8 feet; at 20 miles, using his foot as a brake, another one stopped in 61½ feet, while at 27½ miles per hour a third policeman required 131 feet in which to check himself. It was to offset these records that the Metropole Cycling Club undertook its contests, which were of rather an impromptu nature, having been announced only the day before and entries being accepted on the spot.

The first test was at slow speed, from 8 to 10 miles per hour. The contestants coasted one-twentieth of a mile, and at the word applied the brakes. The mistake was made, however, of locating the finish on a stretch of loose macadam, the stones in which acted as so many small rollers, and were responsible for disappointing results. In this test twelve men participated, the best stop being made by S. C. Everett, Calumet Cyclers, an old trick rider, who stopped in 15 feet 9 inches. The performances varied greatly, as appended summary shows:

	Ft. In.
1. S. C. Everett, Calumet Cyclers....	15 9
2. L. C. Boardman, Metropole C. C....	18 10
3. E. L. Ferguson, Metropole C. C....	19 7
4. J. Lurie, Crescent C. C.....	20 7
5. S. W. Merrihew, Metropole C. C....	22 6
6. C. G. Dixon, Royal Arcanum W....	22 —
7. J. F. Lange, New York.....	24 9
8. H. Schock, Brooklyn.....	25 4
9. W. R. Pitman, Boston B. C.....	31 4

In every case the men, owing to the loose surface, skidded with locked wheels more than three-quarters of the distance.

Profiting by experience, when the contest at faster pace (16 to 19 miles) was undertaken, the finish was moved to a comparatively hard surface. The effect was reflected in the performance of the men. E. L. Ferguson, Metropole C. C., made a sensational stop in 12 feet 5 inches, easily putting to blush the best performance made in the slow test. All of the performances were away inside of those made by the bicycle policemen on the marble-like surface of Riverside Drive. S. C. Everett finished second in this test, with a record of 20 feet; Merrihew was third, in 25 feet 2 inches; Lurie fourth, in 27½ feet, and L. C. Boardman fifth, in 32 feet 8 inches. In each test the winner rode a chainless with coaster brake, the brake being of the outside or tire-applied type.

“DEVELOPMENT IN STEEL

Sheffield Concern Evolves a Remarkable Product—Hardens in Air.

Many a machinist has taken, with a mental if a not more expressive objection, a lathe job that required slow, light cuts, wishing all through the work that it had fallen to the lot of some other man about the shop or else that a steel would be produced from which a cutting tool could be made that could be used continuously at high speeds. Sitting down before a lathe, and with folded arms, watching the tool travel at a crawling pace taking a light cut, suits some natures; but the average first class mechanic generally likes to dodge that kind of work for something with more action.

With the invention of the Taylor-White steel, which made it possible to produce tools for cutting at continuously high speeds, steel makers all over the world have been at work along the same lines. The latest addition to the list is made by the well known steel manufacturers, Jonas & Colver, Ltd., of Sheffield, England. This concern has long been known as a maker of very high grade steel, and has had a considerable trade in America.

Their new steel is called “Novo air steel,” and it hardens in air or in hot water, whichever may be preferred. In forging this steel it is heated to a higher temperature than the ordinary carbon steel—in fact, to a lemon color—but it is advisable to be particular to heat it thoroughly and evenly. It can then be worked at this high heat, and works with greater facility than most other steels, it being perfectly practicable to draw it down to as small a size as may be desired under the steam hammer, or it can be bent at right angles. In hardening it is necessary only to hold it in a blast of air or to plunge it in hot water.

It is claimed that this steel is absolutely not liable to cracking and that it will maintain fine edges. It can be annealed in the ordinary way, and when so annealed can be worked by milling, planing or any other of the ordinary operations of steel working, so that taps, milling cutters, reamers or whatever may be desired can be made of it.

Information regarding some remarkable tests of this steel shows that it is capable of giving very high duty. For instance, a tool 1x2 inches took a roughing cut on a shaft for a hoisting engine, the shaft being 11½ inches diameter, the cut ½ inch deep, with feeds varying from 1-32 to 1-16 and up to ¼ inch at a speed of 93 feet per minute, the length of the cut on the shaft being 4 feet. The same tool did the finishing cut at 70 feet per minute, and was in perfect condition. On cast iron one of these tools took a cut ¾ inch deep with ¼-inch feed at 35 feet per minute, the same tool taking the finishing cut at a speed of 165 feet per minute. On nickel steel, steel castings, brass of government composition, and other metals, tools made of this steel have shown their great superiority to ordinary steels, so far as capacity to stand high cutting speeds is concerned, and the steel is an interesting addition to the list of such steels.

Whipple Converts his Motor Sled.

Ira H. Whipple, of the Whipple Cycle Co., Chicago, who transformed a Mitchell motor bicycle into a motor sled, with which he created something of a sensation on the Chi-



cago boulevards during the past winter, has now transformed the machine into what he styles a “cyclomobile.” The accompanying illustrations show, however, that it is what the average man would incline to describe as a motor tricycle. The most striking feature of the machine is perhaps the dynamo which is employed—the first of the sort ever used on a motorcycle in this country, it is believed. It is secured to the rear of the ma-



chine, as the illustration shows, and does away with the storage or dry battery. Mr. Whipple states that he finds it gives a spark that ignites almost any gas mixture, in addition to lighting two electric lamps, a white one in front and a red one behind.

SPEED NOT DANGEROUS

Some Popular Fallacies Reputed—In Speed There Seems to be Safety.

It is a common error to suppose that rapidity of movement brings with it liability to accident, says a close observer; express trains, destroyers, bicycles and motors are all labelled dangerous in the minds of the masses, whilst freight trains, canal boats, wheel-barrow and omnibuses rank only a little lower than the Treasury at Washington in the scale of safety.

No idea could really be more erroneous, and the error arises from the inability of the ordinary mind to differentiate between potential danger and actual danger. All swiftly moving vehicles are full of potential danger, but they rarely cause or contribute to actual disaster; whereas the slow coaches are actually more dangerous than they seem to be potentially. The reason why fast trains and motors incur popular condemnation is because one accident due to them arouses more popular notice and sticks longer in the popular memory than ten accidents due to the slow type of vehicle. A man gets run over by an omnibus, and no one but his executors worries about him, but if a bicycle or tandem go over his toes the press and the police shout themselves hoarse.

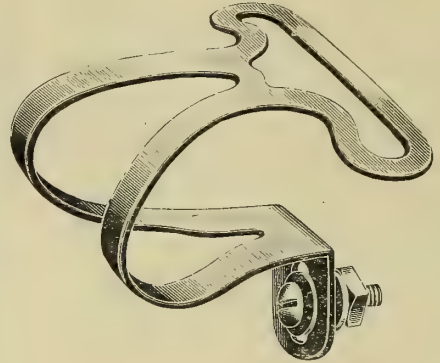
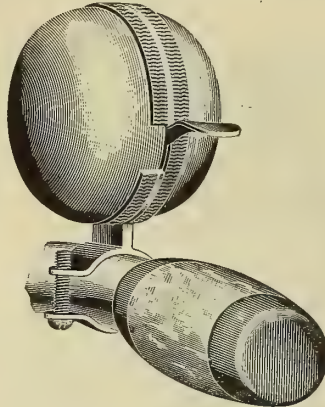
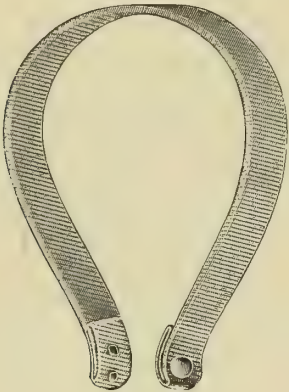
By potential danger I mean the inherent capacity for coming to grief or causing an accident; by actual danger I imply the amount of probability which exists that a given vehicle will come to grief or cause an accident. The capacity of the “Chicago Limited” for smashing up is great; the probability that it will do so is small.

And so it is in a public thoroughfare. The riders and drivers of speedy machines must of necessity be keeping a constant lookout in every direction to avoid running into or being run into, whereas the slow coaches are never quite awake until the danger is upon them, and then they are too sluggish or too cumbrous to avoid it. “Slow and sure” is a good maxim, if you understand it rightly, i. e., the slower you go the surer you are to come to grief.

The Retail Records.

- Phoenix, Ariz.—S. Griswold, fire; loss nominal.
- Utica, N. Y.—Genessee Bicycle and Repair Works succeeds C. H. Broadbent & Co. at 10 Whitesboro street.
- Westfield, Mass.—Eugene L. Atkins sold at auction to mortgagee, Nelson B. Richardson.
- Chicopee Falls, Mass.—James Reilly opened store.
- Mansfield, Mass.—J. F. Dearborn succeeds H. E. King.
- Turner's Falls, Mass.—C. L. Degraft, fire; loss not stated.
- Colton, Mass.—L. A. Pierce succeeds J. D. Greb.
- London, O.—Stanley H. Reed opened store in East High street.

Be Wise ! While the season is at its full make the most of **BEVIN SUNDRIES**



They're all Sellers.

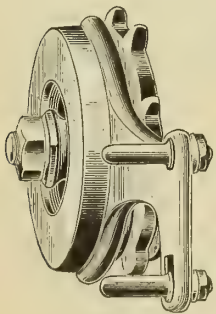
BEVIN BROS. MFG. COMPANY, East Hampton, Conn.
FOUNDED 1832.

GUARANTEED NOT TO STRETCH OR SAG

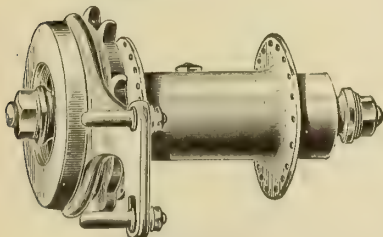


and the OAK guarantee covers every other part of the saddle, too.

NEWARK CYCLE SPECIALTY COMPANY, = = = **Newark, N. J.**



DETACHABLE



UNIVERSAL.

PATENTED
June 12, Aug. 14, Dec. 25, 1900.
Feb. 19, Mar. 26, April 1, 1901.

Wyoma Universal

COASTER, BRAKE AND HUB COMBINED.
WILL FIT ANY BICYCLE. READY TO IN-
SERT IN WHEEL BY LACING IN SPOKES.

Wyoma Detachable

MADE TO FIT THE LEADING STANDARD HUBS.
BOTH MODELS WILL ALLOW REAR WHEEL TO
RUN BACKWARDS.

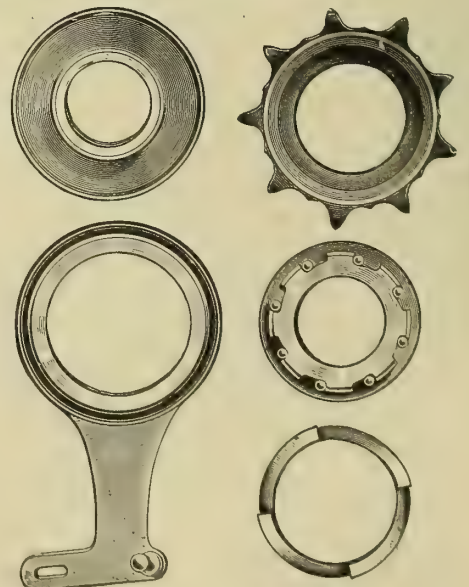
FIVE PIECES, SHOWING CONSTRUCTION OF 1902 MODELS.

NO FIBRES. NO BALLS.

FULLY GUARANTEED.

MANUFACTURED BY

Reading Automobile and Gear Company,
TENTH AND EXETER STS., READING, PA.



SITUATION IN JAPAN

Business Revival not yet Complete—America Well Positioned to Obtain Results.

While Japan has been looked upon to take a large number of the bicycles exported from this country this year, the number has not been up to expectations. In spite of this, however, the United States continues in the lead; in fact, in Formosa the only stock of bicycles on the island are of American make.

An interesting resume of the commercial relations between the two countries is afforded in an extract from "Commercial Relations of 1901," which was made public last Saturday by Frederic Emory, Chief of the Bureau of Foreign Commerce of the State Department.

The inability of cheap labor to compete with machinery, it is stated, is shown in the fact that the greater part of Japan's exports hitherto has consisted of raw materials, while the largest item of manufactured goods has been cotton yarn, which is shipped almost exclusively to China, a country noted, as well as Japan, for its cheap labor. One of the most hopeful features of the situation in Japan to-day is the recognition of this fact by her educated classes. Prominent lawyers, statesmen and business men are beginning to agitate questions of policy with regard to labor, machinery and foreign capital, and the agitation may be expected to bring about beneficial changes in the near future. Japan will thus offer a growing market for machinery. The United States already leads in the exports of electric light apparatus, mining machinery, paper making machinery, watch movements, watch cases and bicycles to Japan; in weaving machinery, spinning machinery, fire engines and pumps, tools and implements of farmers and mechanics, sewing machines and photographic apparatus we hold second place, but our proportion of these exports is advancing steadily.

As the people of Japan come to accept and act on the doctrine—now being taught by her most thoughtful citizens—that her future prosperity depends largely on the substitution of machinery for cheap labor, she will need to purchase these lines of goods in greatly increased quantities, and the United States should be alert to gain her share of the trade. Already our commerce with Japan, including imports and exports, is greater than that of any other nation. The revival of business in Japan consequent upon the resumption of traffic with China will result in an enlarged demand for raw cotton and cotton yarn, and the satisfactory adjustment of the finances is expected to give impetus to railway construction, shipbuilding and the manufacture of iron and steel, and incidentally to increase the importation of many articles.

Inquiry made in Japan as to the relative merits of English and American locomotives proves that, general conditions being equal,

the American locomotive is preferred. Japanese railway officials express a preference for it, if for no other reason than that orders are more quickly filled and more readily conformed to in details of manufacture; other points of advantage also are recognized.

The United States sends about two-thirds of the iron rails imported to Japan, and the same proportion of the nails, having won this last trade from Germany, which five years ago controlled the market. We also sent the largest valuation of iron pipes and tubes to Japan last year; until then this import always had been greatest from Germany. Imports of typewriters from our country represent over 80 per cent of the total. Efforts are making to perfect a machine in the Japanese language, as there would be quite a demand for Japanese typewriters.

Our trade in Formosa is growing. A lead-



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

ing merchant is laying in a large stock of American bicycles, the only stock of wheels in the island, and with the gradual improvement in roads there is reason to expect a considerable demand. The government post and telegraph office has supplied its messengers at the capital with American wheels. The sugar mill, which the consulate was instrumental in introducing from the United States, has so proven its superiority to the crude native apparatus that a large order for modern mills has gone to an American firm. One of the leading chemists is supplying himself with a large stock of American cameras and photographic supplies.

The need of foreign capital is the important economic question in Japan, for although the revenue is in excess of the expenditures, the government has undertaken the prosecution of many enterprises which were usually carried on by private capital. One of the principal demands of foreign capital would be met by the passage of a law to permit alien ownership of land, and the adoption of such a measure is urged. With this change accomplished, Japan will offer an excellent field for foreign capital in the hands of a judicious manager.

ROAD TO RICHES

"Economy" Says one Millionaire Merchant—The True and the False Sides of it.

Asked, "To what do you attribute your success in life?" F. W. Woolworth, the multi-millionaire who started on next to nothing and now owns the sixty-seven "five and ten cent stores," replied, "To economy."

Left bare and unqualified that advice is liable to be misunderstood. One wishing to make application of this lever of fortunes must slightly interpret its meaning in order to get down to a proper basis.

What is economy? "Disposition to save—carefulness in outlay—freedom from extravagance or waste."

In seeking to possess the habit of economy we must be very sure to get the right brand—the real thing. False economy will carry us far astray, and false economy is very common indeed, suggests a writer who uses Mr. Woolworth's reply as his text.

The time has gone by when the office boy was selected because upon test he untied bundles and wound up the string and carefully uncreased and folded the wrapping paper for future use. The boy of to-day oftener finds it to his employer's interest to cut strings, tear off wrappings and jam all into the waste basket!

Time is money. We don't want to be extravagant of time and careful of minor details, if the "net" of the matter is actual loss. This it frequently is, and the one who practises "economy" of this kind is certainly not working toward large things.

Again, a man's temperament enters to decide what true economy is for him. One seems to get rich by a free handed, impetuous, generous treatment of every one and everything about him; another apparently by an opposite policy. Upon sufficient investigation, however, it will probably be found that the latter makes his gains through other means than mere parsimony. There is a carefulness that avoids meanness, and there is a generosity that steers clear of extravagance.

In the growing army of success we have many kinds of men with one kind of result. The impulse that forces one forward is a native impulse. Life is too short to see them cultivated much. We can all grow more or less, and can put forth leaf and bloom and fruit; but the "big-root" kind is the only kind that shall rear his head above his fellows in the world's industrial forest.

Figures Were Impressive.

The record breaking parade, promoted and carried out by the Philadelphia Cycle Dealers' Association on May 4, proves to have been of greater numerical strength than even its promoters estimated. The official count (a Philadelphia institution) of the number of bicycles entering the Diamond Street entrance to Fairmount Park on the occasion of the run was 5,280.



Don't Hide Your Light Under a Bushel.

Handle the best article of its kind and see that its manufacturers advertise it in the right medium to reach the people who will use it.

DEALERS WHO HANDLE THE SMITH TWO-ROLLER SPRING SEAT POST

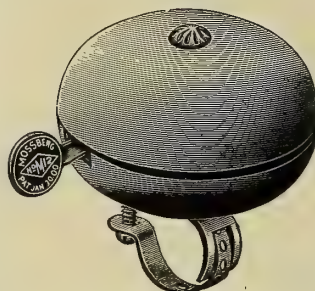
have made money, new friends and customers. Riders know its merits, appreciate it, and buy it.

RETAILS AT \$1.50.

ORDER TODAY.

JOS. N. SMITH & CO., - Detroit, Mich.

The Call of this Cuckoo



CUCKOO CHIME.

ought to be answered by every dealer who thinks he knows "a good thing when he sees it."

There's profit in it.

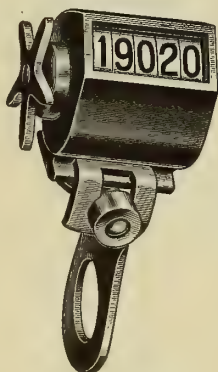
Let us quote you—if we haven't done so already.

FRANK MOSSBERG CO., Attleboro, Mass.

Veeder Cyclometers

STAND ALONE.

10,000 Miles and Repeat.



ACTUAL SIZE

Competition has been silenced by sheer
... SUPERIORITY ...

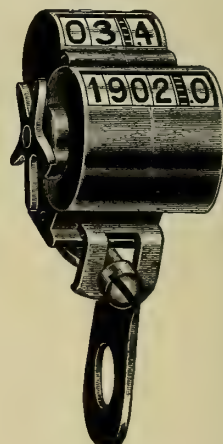
Wheelmen no longer ask for a "CYCLOMETER."

They ask for a "VEEDER."

Those two words are synonymous.

Dealers can secure them from any jobber of consequence in the United States. They are on sale in every civilized country in the world.

10 000 Miles and Repeat and Trip.



ACTUAL SIZE.

Makers of CYCLOMETERS,
ODOMETERS,
COUNTERS,
FINE CASTINGS.



THE VEEDER MFG. CO.,

CATALOGUE FREE.

HARTFORD, CONN.

CINCH

COASTS FREELY ON BEARINGS.

GROUND AFTER HARDENING.

Brakes Metal to Metal.

Drives Without Friction.

RIGGS-SPENCER CO., Manufacturers, Rochester, N. Y.

Schrader Universal Valve.

(Trade-Mark, registered April 30, 1895.)

—NOTICE—

Manufacturers of Bicycles, Jobbers and Dealers:

In order to facilitate the obtaining of

PARTS

of the

**SCHRADER
UNIVERSAL VALVE,**

I have concluded to sell parts only to the general trade.

Parts 99-1, 99-2, 99-3, 99-4, may be had from all the makers, or from A. SCHRADER'S SON.

Price List and description of parts sent on application.

**Simple and
Absolutely Air-Tight**

MANUFACTURED BY

A. SCHRADER'S SON,

ESTABLISHED 1844,

30 and 32 Rose Street,

NEW YORK, U. S. A.



SHARP ATTACKS VIBRATION

The Result is a Pneumatic Spring Frame Embodying Some Novel Ideas.

Prof. Sharp, the English mechanical engineer, who at different times has come in for considerable criticism, favorable and otherwise, because of his criticisms of bicycle construction, and who is the author of a book on the subject—he also at one time acquired fame by stating that walking upstairs was easier than walking down, and proved it according to disengenuous reasoning and diagrams—has always been an advocate of some kind of spring frame construction. His latest construction on this line has recently been submitted to tests by one of his opponents, who writes as follows regarding them:

"At Sharp's request I spent a morning lately with him examining the behavior of certain cycles of his own invention, designed to achieve that long sought ideal of insulating the rider from vibration due to shocks on uneven roads.

"Spring frames have been with us for years and not one of them has reached a popularity at all commensurate with the popularity of the stiff framed cycle. Many of them are undoubtedly luxurious, some scarcely wasteful of the rider's power at all, and yet riders are shy of them. There is the added weight, the complication and the loss on good going due to the bobbing of springs suitable only for rough roads.

"Now, I do not pretend to the belief that Mr. Sharp's air spring frame is all at once going to make converts of everybody, but it certainly does contain features either entirely fresh or carried along in the ideal direction further than in any other spring frame cycle I have seen. There is an air chamber with a rising and falling piston all neatly contrived above the seat trays. There is a similar device with the head tube.

"The bottom bracket is hinged in a way that detracts no whit from lateral stability, and there is a hinge at the seat lug and at the jaws of the back forks; but, as has already been demonstrated on other frames, notably the B. S. A., these hinges move so little and can be made so accurately that wear in them is negligible altogether.

"The kernel of the invention is the use of a rubber mitten to give an air tight joint. This mitten has thickened edges. It is folded so that each edge makes an air tight seal, and as the piston rises and falls under pressure due to shocks from without the crease or fold moves. The joint is thus at once air tight and provides a range of motion. Explanation is practicably impossible without a diagram, but the net result is what I am just now concerned with.

On these air spring cycles there is a wide range of movement, and as it needs only a stroke or two of a pump to harden, or the in-

section of a pinhead to partially relieve the pressure, an exact degree of adjustment can be arranged, from absolute immobility to the greatest possible yielding. So hard can the air chamber be blown that two men can climb on the cycle and not sag the spring, and any less degree of stiffness can be had at a moment's notice as desired.

"This immediate and complete adjustability is a very important feature of the new design, as with such a machine one need never indulge in a lot of wasteful movement on good roads where speed is desirable, and can always command luxurious travelling when evil conditions of surface present themselves. Such a range of adjustability is far better than a compromise, even as a multispeed has its advantages over a single speed gear.

"Another highly interesting fact is that this type of spring frame does not entail the handicap of extra weight. Air, as a spring, is enormously lighter than steel, and the range of adjustment given by varying the pressure of the air could only be given with exceedingly heavy steel springs and controls. But there is more to be said. It is, even with the cruder forms of experimental designs, possible to keep the weight down to that of present standards; and Mr. Sharp told me that he was convinced that if he had the resources of a modern factory at command he could turn out air spring frame cycles at 20 pounds properly equipped, as featherweights now averaging 26½ pounds are equipped, and with a larger margin of safety. Nor is this merely the sanguine hope of an inventor, but is based on very reasonable expectations.

"It is possible, obviously, to arrange the cushioning by the air chamber to permit movement of the parts at a certain pressure. Any blow from without of greater than a certain amount of force would then be not rigidly resisted. Therefore, a weaker structure which would collapse under a stress rigidly resisted might well be utilized when safeguarded by a limiting of the resistance and allowing movement.

Whether the forecasts are correct or not, the present cycles are most interesting. They introduce no new features into the arguments for and against spring frames as such, but they emphasize the valuable point of adjustability, they remove the tremendous handicap of excessive weight usually associated with spring frames, and contain a design of air spring which is apparently likely to prove valuable for all sorts of road vehicles, whether propelled by animals, men or mechanical motors."

Diamond Dips Into a Hymn.

The Diamond Rubber Co. have encroached on the Beecham's pills' preserves, and paraphrased that well-known song in this fashion:

Hark, the herald angels sing,
Diamond tires are just the thing.
Peace on earth and mercy mild,
Made for woman, man and child.

HIS STARTING TROUBLES

The Motorcycle Novice Encounters More Vexation and Seeks and Obtains Advice.

"Say, I wish you would tell me the cause of my trouble last Sunday on my motorcycle run!" almost shouted the beginner as he settled down in the spare office chair.

"I don't want to get personal," retorted the adviser, "but your principal trouble, as it is with most of you beginners, is that you don't use good, cool, common-sense thinking. Most of you get rattled at the first indication, and then you go from bad to worse. Now that I have got that remark off my mind, fire away and give me a few straws so that I can make bricks to throw at you."

"To begin with, I went out last Sunday for a sightseeing trip, and, of course, stopped fairly frequently. My troubles came every time I started up. Sometimes I would get going at once, and other times it took a lot of pedalling to get the motor going. I didn't leave my spark controller cover at home, so I know it wasn't my trouble of the last time. I am also betting on all the other points, such as good mixture, clean spark plug, and so forth, so how are you going to explain where I was at fault?"

"I am going to explain it on the theory of my friend Sherman, who sells the Indian, that you did not stop a minute and think five. Were the roads that you were riding over on the up and down order, not necessarily hilly, but even, a little bit rolling?"

"They were what you probably would call rolling. But what has that got to do with the case?"

"Just this: You undoubtedly had your spark controller set for high compression, and each time that you started up, the speed at which you did this made the difference in getting going at once or after some time. That is, if you started on a slight down grade, then you got up a good speed at once and your spark worked with your compression. If you started on the flat or up a slight grade your primary circuit was broken with a lag that wasn't 'snappy' enough to overcome the high compression point at which the break was timed.

"Remember to hereafter set your spark for low compression when you start up your motor, or else you will have to get under good headway before things will work correctly. If you did get an explosion on a slow speed start and at a high compression, you would get some pretty good jerks if you were on a direct connected machine. On a tricycle I have seen this combination jerk the machine enough to lift the front wheel eight and ten inches into the air. That is one of the advantages of the design I recently showed you, where the current, compression and advance sparking were all controlled with one lever."

RACING

Over 6,000 persons saw Kramer win both the half mile open and the one mile handicap. In the latter Kramer made the remarkable record of 1:37 2-5 for the mile—the fastest time ever made by a winner of a handicap. In this race the men conformed to the new conditions, and Kramer and McFarland announced themselves as a team; Collett and Williams did the same thing. There were twenty-two starters. On scratch were Kramer and McFarland, and on the limit mark, 160 yards away, were Millar, Kloeblen and Guery. It looked like a hard proposition for the scratch men to get up with the long markers, but McFarland, settling in his stride, with Kramer on his rear wheel, set sail for those in front. Collett, riding from 20 yards, was the first passed. On the third lap the bunch was caught up, and McFarland, fagged out from his efforts, sat up, allowing Kramer to go it alone. Passing the stand for the last time Kramer was in tenth place. The pace was slow until well up the backstretch; then the real race began. Krebs went to the front, opening up a gap of five lengths, with Kramer, Collett and Hadfield in pursuit. At the stretch turn Kramer was leading, and increased his advantage in the run for home. Hadfield came fast at the finish and beat Krebs in the last stride. Bardgett was fourth, close up. Hadfield, Krebs and Bardgett had 80 yards each. The half mile professional was run in the French style, and Kramer was the winner after going through trial, semi-final, grand semi-final, final and grand final heats without meeting defeat. In the grand final heat Collett was Kramer's opponent. In the try for position at the start Collett forced Kramer to take the lead. They rode yards apart the first time around, but at the bell Collett came up to Kramer's rear wheel. Gradually the latter increased his speed until the eighth pole was reached, where both began their sprint for home. For a moment Collett showed in front, and then Kramer, pedalling faster and faster, went to the front. There was no rest up in the homestretch. Kramer pedalled for all he knew, and his sprint just lasted long enough to beat Collett out by a scant length. Final heat, won by Kramer, Collett second; time, 2:45. McFarland and Kemble divided third and fourth places. Nelson gave a one mile exhibition paced race to beat the record of 1:28 4-5 made at Buffalo by Smith. The strong wind blowing up the backstretch and the inability of the motor to give faster pace prevented the rider from doing better than 1:37 1-5. In the half mile amateur Chappey, riding from the 30 yard mark, defeated Billington, the scratch man, with Ferguson third and Achorn fourth; time, 1 minute. The five mile amateur handicap was won by Chappey after an exciting finish. Sindel was second, Billington third, Journey fourth. Over fifty riders started in this event. Chappey had 150 yards, Sindel 200

yards, Billington scratch and Journey 250 yards; time, 11:33 2-5.

Helped by an accident to Walthour, Albert Champion captured the Brassard, emblematic of the cycling championship of Charles River Park track, from its former holder, Butler, on May 10, and incidentally defeated four other men in the hour paced race. Champion rode 37 2-3 miles; Butler, who finished second, covered one mile less; Maya went 35 2-3 miles, Keegan 30 2-3 miles, Mettling 28 1-3 miles, Walthour about 23 miles. The result might have been very different had not the chain on Walthour's wheel snapped. Up to the twenty-third mile, when Walthour was forced to retire, he looked like a sure winner. A five mile motor paced race between Coffey and Tolman resulted in favor of Tolman; time, 10:33 4-5. Coffey's pace went wrong and he was forced to retire. In the second event, a five mile open heat race, with prizes for each lap, the final was captured by Stoughton, Potter second, Root third, Sulkins fourth; time, 12:36 4-5. There were 5,000 spectators present.

Entry blanks for the fourteenth annual Irvington-Millburn 25 mile road race, on Decoration Day, are out. It styles that classic event "The Irvington and Millburn race," and asserts that it being run under the auspices of the Irvington and Millburn Road Race Association of New Jersey, E. L. Blauvelt, secretary and treasurer. Blauvelt, however, constitutes the entire association. Some months since he invited a number of well known oldtimers to join with him in forming an association to promote the race, but so far as they know the association was never organized. It certainly has held no meetings, and Blauvelt is simply acting on his own initiative and conducting the race on his own account. An unnamed motor bicycle is offered as first position prize, a Yale racer second, and two other chain wheels as third and fourth. A Yale racer and two other bicycles are offered for time prizes. In connection with the Irvington-Millburn, Blauvelt is also promoting a ten mile motor bicycle race, for which he asks a \$5 entry fee.

The rules (?) which are to govern the ten mile motor bicycle race on the Irvington-Millburn course on Decoration Day are models of clarity and grammatical diction. If they are accepted literally some queer things will happen. Witness the rules as they appear on the entry blank:

"This race is for amateur riders only to be entered by any manufacturer, or may enter on his own responsibility. The machines are limited to 2¾ h. p. motor, with a 2¾ bore cylinder. Each machine to be ridden by an amateur only. Each machine must be equipped with a horn and must be sounded constantly. Further rules governing this race will be decided by the 'Referee,' who will decide all or any protests by the regular rules governing the regular Irvington and Millburn 25 mile race."

The new rules governing motor pacing, which were published last week in the *Bicycling World*, call to mind the "wide open" measurements officially recognized in France. A rectangular frame 48 inches high and 24 inches wide, both in the clear, is used, and any pacing machine that can pass through the "eye of the needle" is given an official O. K.

The Decoration Day races at Cleveland, Ohio, will include one professional and seven amateur events. As usual, the track events will be preceded by a road race. In this the first prize will be a \$175 motor bicycle. The time prize will be a \$50 motorless bicycle. In the track events two of the races will be motor paced.

The motocycling committee of the Century Road Club Association has recommended a twelve hour limit for motorcycle centuries around New York, on account of the various low speed ordinances ruling in that city and in the towns in the neighborhood.

Fifteen men have been signed by the American Cycle Mfg. Co. to follow the National Circuit. The team comprises Walthour, Stinson, McFarland, Hall, Leander, Fenn, Monroe, Hunter, Lawson, Fisher, Wilson and Schrieber.

"What is needed in cycle sport," says A. G. Batchelder, "is the establishment of historic races, events that would be talked of months in advance, and would answer to the sport as the Brooklyn and Suburban handicaps figure in the turf."

The Philadelphia Cycle Dealers' Association is promoting a road race matinee for Decoration Day. A one and two ten mile events will be run, one of the latter for motor bicycles.

Classes for motor bicycles and motor tri-cycles are included in the Automobile Club of America's mile speed trials which occur on Staten Island May 31. Entries close on the 24th.

Stinson's Jonah is still with him. While following pace at Charles River Park last week he fell and broke his collar bone for the second time.

St. Louis Again Awake.

From all accounts, St. Louis, which was reckoned one of the deadest cycling towns in the West, is very much alive once more. Not only do trade reports indicate such a state of affairs, but a breath of the oldtime spirit is conveyed by the receipt of a circular heralding the Pike County tour, under the auspices of the League of American Wheelmen. The event occurs on May 17, and embraces the famous Clarkville course, which fifteen years ago was the picturesque scene of the most animated road races and rivalry that the cycling world ever knew. The Missouri Division, incidentally, has appointed a touring committee, with a rare old timer, H. G. Wolzendorf, as its chairman.

The Week's Exports.

With purchases valued at some \$11,700 England last week again topped the export manifest, the British possessions in Africa (\$7,752) being next. Germany, \$6,000, was the only other large buyer. The record for the week follows:

Antwerp—2 cases bicycles, \$55; 1 case bicycle material, \$48.

Azores—4 cases bicycle material, \$72.

Amsterdam—12 cases bicycles, \$210.

Abo—97 cases bicycles, \$2,825; 1 case bicycle material, \$171.

British Possessions in Africa—204 cases bicycles and material, \$7,752.

Brussels—9 cases bicycle material, \$374.

British Guiana—5 cases bicycles and parts, \$241.

British West Indies—54 cases bicycles and material, \$1,365.

British East Indies—15 cases bicycles and material, \$422.

Cuba—6 cases bicycle material, \$440.

China—7 cases bicycles and material, \$475.

Christiania—2 cases bicycles, \$50.

Dutch West Indies—2 cases bicycles, \$26.

Danish West Indies—2 cases bicycles and parts, \$43.

Genoa—50 cases bicycle material, \$2,183.

Gothenburg—5 cases bicycles, \$60.

Hamburg—160 cases bicycles, \$3,450; 53 cases bicycle material, \$2,514.

Hong Kong—7 cases bicycles and material, \$363.

Havre—84 cases bicycles, \$1,554; 41 cases bicycle material, \$2,065.

Japan—68 cases bicycles and material, \$1,798.

Liverpool—48 cases bicycles, \$1,315; 6 cases bicycle material, \$150.

London—139 cases bicycles, \$2,698; 54 cases bicycle material, \$2,161.

Lausanne—1 case bicycles, \$50.

Mexico—1 case bicycles, \$21.

Naples—2 cases bicycles and material, \$65.

Odessa—1 case bicycles, \$31.

Oporto—2 cases bicycles and parts, \$207.

Rotterdam—38 cases bicycles, \$855; 26 cases bicycle material, \$1,175.

Rotherham—1 case bicycles, \$27.

St. Petersburg—1 case bicycle material, \$200.

Stockholm—6 cases bicycle material, \$316.

Southampton—83 cases bicycle material, \$5,328.

Turin—2 cases bicycles, \$122.

U. S. of Colombia—1 case bicycle material, \$10.

Vienna—3 cases bicycle material, \$170.

The Week's Patents.

699,240. Sprocket Wheel for Bicycles. Lewis Reedy, Lawrence, Kan. Filed July 20, 1901. Serial No. 69,002. (No model.)

Claim.—1. A compensating device for gear wheels, comprising a peripheral compensating plate having openings spaced apart for the teeth of the wheel, and flanges securing the compensating plate to the wheel.

699,376. Spring Frame for Bicycles. Charles W. Errick, North Tonawanda, N. Y. Filed Feb. 11, 1902. Serial No. 93,491. (No model.)

Claim.—1. A spring frame for bicycles having the upper and lower forward frame tubes in sections, one section of the upper tube having both pivotal and vertical adjustment with respect to the frame and telescoping in another section, a coil spring between the sections of said upper tube and a flat spring between the sections of the lower tube, substantially as set forth.

699,400. Spring Post for Bicycle Seats or Handle Bars. George S. Lewis, Chicago, Ill. Filed Dec. 9, 1901. Serial No. 85,180. (No model.)

Claim.—1. In a spring post for bicycles, the combination with a longitudinally resilient, tubular post, of a coupling rod limiting the longitudinal expansion of said post, an internal expander plug, a screw threaded therein to raise and lower said plug, means for operating said screw by rotation of said coupling rod, and means for limiting the movement of said screw to that of rotation only.

OILERS.

"PERFECT"



25c.

"GEM"



5c.

"LEADER"



10c.

"CROWN"



5c.

"STAR"



10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs., 240-2 W. 23d St., N. Y.

IT IS
NEVER TOO LATE
OR
NEVER TOO HOT
TO SELL
**CUSHION
FRAME
BICYCLES.**

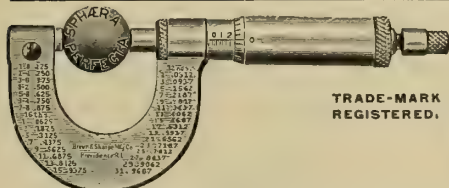
The "Cushion Frame Season" is all the season; along about this time there are many riders who after being jostled and jolted by rigid frames are in a humor to be won over to the frame that will give relief and afford ease and comfort. It's the dealer's business to seek out such riders.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.



TRADE-MARK
REGISTERED.

**STEEL
BALLS**

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

The H. A. Matthews Mfg. Co.

MANUFACTURERS OF

BICYCLE FITTINGS

of all description and of the finest quality,

SEYMOUR, CONN., U. S. A.

HAVE YOUR BICYCLE EQUIPED WITH A

NEW DEPARTURE COASTER BRAKE

SOLD EVERYWHERE BY EVERY BODY

MANUFACTURED BY
THE NEW DEPARTURE BELL CO.
BRISTOL, CONN. U.S.A.

SELLING AGENTS
JOHN H. GRAHAM & CO.
NEW YORK CITY.

SOLAR LAMPS

ALWAYS SATISFY.
Badger Brass Mfg. Co., Kenosha Wis.

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of everything. Call on any agent for tickets or address

461 Broadway - New York 435 Vine St., - Cincinnati
801 Ches't St., Philadelphia 507 Smith'ld St., Pittsburgh
368 Washington St., Boston 234 Superior St., Cleveland
801 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car and Dining Car to Syracuse and from Toledo to Chicago.
"North Shore Special" has Dining Car to Albany, and from St. Thomas to Chicago. Both trains run daily and are made up of the most modern and luxurious vestibuled Sleeping Cars.
For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage Them"

is the very book you need.
Every page teaches a lesson. Every illustration
"speaks a piece."
And there are 126 pages and 41 pictures, too
Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.

If You are Interested in Automobiles, THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday
at 123-5 Tribune Building, New York.

\$3 per Year

Specimen Copies Gratis



Via Rockford, Freeport, Dubuque, Independence, Waterloo, Webster City, Fort Dodge, Rockwell City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

LOWEST RATES FAST TRAIN SERVICE

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,

49 Middle Abbey St., DUBLIN.

THE CYCLIST
A MONTHLY CYCLING REVIEW

The Authority of the Cycle World

RELIABLE NEWS

ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.
Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Through all Bookstalls and Newsagents or from the
Publishers

LIFFE & SONS Limited,
3, St Bride Street, London, E.C.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, May 22, 1902.

No. 8

"HOT AIR," SAYS BROWN

Englishman Employs That Americanism to Characterize Coaster Brake Corner.

Before he sailed for home on Saturday last Alfred Brown, of Brown Bros., London, threw a flood of light in or on the alleged attempt to corner the coaster-brake patents, and to thereby require the trade of two continents to pay tribute.

As the Bicycling World of last week reported, those credited with having purchased "master patents" and of being concerned in the projected "corner" were Albert Eadie, Charles Hyde, Green & Houk and Brown Bros., all of whom are prominent in the English trade.

When first spoken to Mr. Brown good naturedly but positively refused to say anything until the printed reports were shown him.

"I've been away from England for five weeks," he said, "and don't know what has been going on."

After he had read the story he smiled all over and remarked:

"That is what I believe you Americans call 'hot air.'"

"Isn't it rather odd that your firm's name should be used in such unwarranted fashion?"

"It is. But all I really know about the matter is this: I was asked whether, under certain conditions, I would do certain things. I replied that I would, but I did not say when I would do so." Mr. Brown emphasized the "when," and continued: "The conversation did not last ten minutes, and I have not since given the matter a thought."

"Do you believe that such a thing as a master patent on a coaster-brake exists?"

"I do not, and if ever they existed they expired long ago. I do not believe it would be possible to maintain a patent on either the free wheel or the back-peddalling idea. But I do think it possible that a patent on a combination of the ideas and of their application would hold."

"But, despite your opinion, there is nothing in the report of your connection with the alleged 'corner'?"

"Nothing but 'hot air,' as you call it," again responded the fair haired, rosy cheeked London merchant.

Fire Helps the Frauds.

The creditors of those monumental frauds, Wheaton & Smith, Chicago, have encountered another obstacle. In order to recover what was traceable of the goods, action became necessary against the trustee of the bankrupt estate of Keating, Smyth & Shoemaker.

The latter firm was the one that issued warehouse receipts calling for merchandise, and these warehouse receipts contributed to and constituted the principal assets of the firm of Wheaton & Smith, upon the strength of which they obtained ratings in the commercial agencies, and thereby were enabled to obtain credit.

Keating, Smyth & Shoemaker had a fire which destroyed, it is understood, the contents of their factory. They also had a falling out between themselves, and went into bankruptcy. Before doing so they collected in the neighborhood of \$30,000 of insurance on the goods in the factory, which are supposed to have included the goods represented by warehouse receipts. Under the circumstances a strong effort is making to compel the trustee of the Keating, Smyth & Shoemaker estate to turn over to the trustee of Wheaton & Smith, for the benefit of the latter's creditors, the amount collected as insurance on these particular goods, and it is this effort which is not as easy as it may appear to be.

Echo of Past Troubles.

Present and past are once more linked together in the suit of Thomas Devlin & Co., of Philadelphia, against the Frederick Mfg. Co., of Newark, N. J., which came up last week in the United States Circuit Court at Trenton, N. J.

The complainants ask for a verdict for \$5,000, alleging breach of contract. The contract was for bicycle handles, which the Frederick Co. asserts were of poor quality.

Eager is Embarrassed.

E. G. Eager & Co., the well known jobbers of Toledo, Ohio, are in trouble. They have issued a letter to their creditors advising them that it is "deemed inadvisable to continue under present conditions." Pending a meeting of those affected, which is to be held in Akron this week, the firm will remain at a standstill.

JUGGLING WITH MORROWS

The Eclipse Mfg. Co. Locate the Jugglers and Promptly Institute Legal Proceedings.

Following their avowed policy, the Eclipse Mfg. Co. have again resorted to the courts to compel respect of their policy and price on the Morrow coaster-brake.

Although their name does not suggest participation in such practices or the sale of such goods, the Bicycle Dress Guard Mfg. Co., a little known concern in this city, are made the defendants in the case.

As is known, Morrows are sold in large numbers abroad, the Eclipse Mfg. Co. having exclusive agencies in several countries. In Great Britain they are represented by Green & Houk, Limited, of London, who recently reported that certain New York exporters were violating their trade contracts by shipping brakes into England and competing with the authorized agents of this concern, to the large injury of the trade.

Investigations followed, with the result that suits in the Supreme Court have just been instituted against the Bicycle Dress Guard Mfg. Co. to recover damages for alleged breach of trade contracts in this respect, the damages asked for mounting well up into the thousands.

Papers in the action were served from the law office of Shepard, Houghton & Stoddard, this city, John M. Stoddard, of that firm, acting as counsel for Herendeen & Mandeville, attorneys, of Elmira, N. Y. The complaint alleges that the Bicycle Dress Guard Mfg. Co. obtained during the past winter a large number of Morrow coaster-brakes for alleged export to Australia, which was then open territory. Instead, however, of sending the brakes to Australia, the Eclipse Mfg. Co. allege in the complaint that these Morrows were, in violation of contract, shipped to London and sold in competition with their authorized English agents.

No answer has yet been filed to the complaint, and the position of the Bicycle Dress Guard Mfg. Co. in the matter has not yet been disclosed. The outcome of the suit will be a matter of considerable interest to the bicycle trade; that the action of the Eclipse Co. in the matter will be generally commended goes without saying.

ACCORDING TO BROWN

What London's big Cycle Jobber Says of Machines and Matters Here and Abroad.

After spending several weeks in this country, Alfred Brown, of Brown Bros., London, sailed for home on Saturday last. His firm does not deal in complete bicycles, and his purchases, he stated to a *Bicycling World* man, were not, therefore, particularly extensive.

"There are only certain articles," he said, "which we now find it necessary to buy on this side of the water. Despite impressions and statements to the contrary, bicycles and nearly everything else are now being made about as cheaply in England as anywhere else. In sets, ready for assembling, we sell bicycles at almost the same prices that rule in this country. Tires constitute the item that makes the cost of the British bicycle appear so much higher than the American article; they of themselves make a difference of \$6 or \$7. The bicycle that has the call in England is a \$50 machine which is sold to the agent at \$40, so you see things are not so different as you may imagine."

Mr. Brown expressed the English dislike for stampings. He could see little health in them. The English riders would have none of them. They prefer their "solids," as Mr. Brown termed forgings. When told that Americans similarly abhorred "malleables," which is British for castings, and which are extensively used abroad, even in the best machines, Mr. Brown as stoutly defended their use.

American coaster-brakes, he admitted, dominated the British markets. There was no home-made article that cut any considerable figure in the trade, he said.

"Then the coaster hub pure and simple is not in such general use as we Americans imagine?"

"There are numbers in use, but the coaster-brake as it is understood over here—the one with back-pedalling brake—is rapidly displacing all others. But even with these a rim brake on the front wheel is used."

"Why two brakes?"

"If a chain breaks and the back-pedalling brake is put out of business, one can save himself with the rim brake."

"But chain breakages are infrequent. What would the English rider do if his frame or his fork broke?"

"What would the American do if his chain broke?" Mr. Brown countered in return.

"Brake with his foot."

"Perhaps we value our necks more than you do," laughingly suggested Mr. Brown. And then it came out that the British cyclist could not brake with his foot if he so desired, the prevalence of mud guards preventing, "although personally I have no guards on my bicycle, and have had none in years," Mr. Brown added.

Mr. Brown confirmed the reports that the

two-speed gear is gaining substantial ground, and described the business in motor bicycles as "good."

"You've never seen our place in London, have you?" he inquired. "I don't think there is anything in America like it. We carry a stock of \$500,000 to \$600,000 in the busy season, and even during the dull months do not permit it to fall below \$300,000. We sell sets for 40,000 bicycles annually, to say nothing of the other things, and employ 190 men."

The Schnitzspahns Sail.

The Graf Waldersee, which sailed from this port for Hamburg on Tuesday afternoon,



O. E. SCHNITZSPAHN.

had as passengers the two gentlemen who are here pictured, O. E. and Leo Schnitzspahn, of Buffalo. Their departure is of more than usual interest, as they are the first cyclists who ever left these shores for a tour abroad on motor bicycles. As was stated last week, they go purely for pleasure,



LEO SCHNITZSPAHN.

and if all goes well they will be absent six months.

The *Bicycling World* has arranged to receive accounts of their experiences, which are certain to prove out of common, and which their cameras will serve to embellish.

The brothers will visit Germany, Holland, Switzerland, France, Italy and the British Isles. They will use last year's Auto-Bies, belt driven and fitted with larger tanks than usual. They are carrying a complement of extra parts, and are full of confidence in their ability to travel Europe as no other Americans have travelled it—Joseph Pennell, long a foreign resident, but still an American, excepted.

AFFAIRS IN AUSTRALIA

Tariff Settled—Weather has Helped Trade but American Cycles do not Get Fair Show.

Melbourne, April 20.—The tariff as it relates to cycles was finally agreed to last night in the House, and is now as follows: Cycles and motors and all plated parts, 20 per cent; unplated parts (ball heads, bottom brackets, lugs, fork ends, bridges, sprocket wheels, balls, nipples, spokes, washers), 10 per cent; bicycle tubing and fork sides, including bent tubes not brazed or plated, free; pneumatic tires, 20 per cent.

From the local builders' and assemblers' point of view this is fairly satisfactory, and under the existing circumstances as good a tariff as was expected.

The better class of American bicycles do not get a fair show here. The prices asked are \$110 to \$125, the figures being inflated because of the expensive system of handling. For instance, (A) in one make the public does not get the machine from the direct agent, but it is sub-let to a minor dealer, from whom they must buy. In another case peculiar methods of business preclude the machine (B) being sold at a reasonable price. A really good locally built machine can be obtained from \$65 to \$80, guaranteed for one year, of the best English parts, Dunlop tires, and which will stand for two, three and even four years.

Owing to a cool summer and a fine autumn, trade has been fairly good, although the commercial world has been somewhat disorganized by the indefinite tariff which has prevailed during the past seven months, and which has been reflected in every line of business. The Dunlop Tire Co. of Australasia reports steadily increasing turnover; the returns for the past six months exceed any previous similar term. The tire trade, I take it, is about the best criterion of the amount of wheeling done; it shows that cycling is more popular than ever, as during the past few years the big tire company has had to compete against numerous smaller concerns, whose aggregate returns must be added to that of the Dunlop Co. to arrive at a fair estimate of the number of tires sold. It is considered that if touring has fallen off the volume of the trade is maintained by the greater expansion of the use of the bicycle in business connections, and as an easy and cheap means of locomotion between the city and suburbs.

Col. Pope Breaks an Arm.

Colonel Albert A. Pope celebrated his fifty-ninth birthday on Monday last in rather unusual fashion—that is, with his arm in a sling. He fell from a horse the week before near his home, at Cohasset, Mass., fracturing an arm near the elbow.

Birmingham Resigns.

J. M. Birmingham, superintendent of the Columbia factory, at Hartford, has resigned. He has been appointed to a lucrative and important post in the Hartford water department.

WHEN MAY CAME IN

The Trade Situation at the Opening of the Month—What the Manufacturers Report and How They Regard the Outlook.

While every one is aware that a considerable wave of prosperity has swept the cycle trade, its exact force is not so easily determined.

In seeking to reach a conclusion the *Bicycling World* canvassed the trade in an effort to present a comparison of the situations on May 1 of last year and on the same date of the current twelvemonth. There were found those, however, who, while admitting that they had shared the prosperity, preferred to express no opinion, fearing that if the idea got abroad that the prosperity was extensive there might ensue an influx of those birds who are ever aloft ready to swoop into whatever industry promises rich pickings.

The opinions appended, however, lose none of their interest and wholesomeness because of the fact.

The Pennsylvania Rubber Co., of Erie, goes into the subject in some detail, and in a comprehensive fashion that is a tonic in itself. "We are pleased to say," they write, "that our business this year is far ahead of any previous year in the existence of this company. There has not been a month in the past eight months, with the exception of one, that we have not doubled our previous year's business, and in several recent months' business we have more than trebled; in fact, our capacity has been tested to beyond its legitimate ability.

"We attribute the cause to a general revival of interest in the bicycle industry, due to several causes; and in this wonderful reaction we cannot but with pleasure note the tendency of the consumer to call for better goods. We have never entered the competitive field on cheap tires, and even the cheapest tires that we do make we find the least demand for, our volume of business being done on our better grade and guaranteed goods—a condition that we believe, if continued, will create a happy and prosperous future for the bicycle business.

"Competition is keen, probably more so than even before; but close observers can see where the manufacturers who pay more particular attention to how cheap they can produce an article are now wondering where to market their products.

"We have not blown our horn as loud or as much as some other companies, but we feel happy and safe in the knowledge of the fact that exists with us to the effect that our business connections are gathered from the most legitimate houses connected with the trade, and that the result of their experience in our products is such as to insure us a continuance of their support.

"The bicycle business is far from being dead, as many would have had it dead and buried long ago, and it is now settled down

to practically what might be termed a perfectly legitimate enterprise, taking its place in the mercantile world with other lines.

"Orders are now being placed with manufacturers on the merits of what they have to offer, and the 'personal influence' theory which in olden days held so much sway has been relegated to the position it rightfully should occupy, and now has become part of ancient history as far as influencing a buyer is concerned, except, of course, where all things are equal, and in that event individuality or personal friendship may still hold its sway, as we believe it rightfully should.

"We desire in closing to compliment your paper, the *Bicycling World*, on the part it has played in keeping up enthusiasm in cycling. You have been loyal to the cause, and we trust we are right in believing that you have received your just rewards. The news contained in your columns has been founded on fact, and not on fiction, and your success is but another evidence of the theory that 'there is but one way to do anything, and that is the right way.'"

"Business up to May 1 was considerably ahead of that of last year. The demand continues steady, and while the buying of the individual dealer is conservative as to number of wheels purchased, the aggregate is very satisfactory. Our highest priced models are selling beyond our expectations," is the report of the National Cycle Mfg. Co., Bay City, Mich.

"The volume of our business up to May 1 of this year, compared with May 1 of last year, shows an increase, according to our books, of 18 1-5 per cent," states the Wisconsin Wheel Works. "We might add that the prospect for future business for the balance of the season this year is at least 100 per cent better than it was a year ago."

"Our bicycle business this year has been quite satisfactory," says the Snell Cycle Fittings Co. "We hardly think that we will equal the volume of previous years, because we have not seen fit to meet the very low prices that have been made to jobbers. We have confined our efforts entirely to the dealer, and must say that we are greatly gratified at the results already shown."

"We are pleased to state that the Yale bicycle holds right up to its former records, both as to quality and sales," writes the Kirk Mfg. Co., Toledo. "The Yale, you know, has always been handled in the interests of the dealer, and as we have never sold to the jobber, of course the low prices made on this class of wheels did not interest us nor affect our trade to any appreciable extent. We have increased our efforts in behalf of the retailer, and our success has certainly been very gratifying. We this season are again participating in the racing game, and are rendering every assistance we can in increasing the interest in cycling."

"We are pleased beyond measure at the result of our business in the bicycle tire line during the present season," says the India

Rubber Co., Akron, Ohio. "We are at the present time running full capacity, night and day, and are at this writing fully ten thousand pairs of tires behind with our orders. There appears to be a general revival of interest in the use of bicycles this year, which is truly gratifying, and we look forward to a successful year, and the prospects are very bright for a continued increase of business during the coming year."

"Our books show an increase in inquiries of 300 per cent and of actual business placed an increase of over 425 per cent over last year up to May 1. We do not say that business at large has grown to this extent, for of course we have advertised much more this year, and naturally would receive more business than last year from its effect."—The Motor Cycle Mfg. Co., Brockton, Mass.

"This season, while a very backward one as regards our connection with the bicycle line, is the best that we have ever had, it being about 15 per cent better than last or any other season up to the first of May. Since May 1 orders have very much increased in number and quantity, which indicates that the season with us is just about at its height, and that it will be a protracted one. We certainly have nothing to complain of as regards the treatment which we have received at the hands of the trade," says the Forsyth Mfg. Co.

"While we do not care to go into particulars, we may state that this year's business has been quite a little better than last up to the present time, with fair prospects ahead," say P. & F. Corbin.

"Our manufactures and styles have changed so radically during the last few years that a comparative point of view would tell but very little. Generally speaking, we have been well satisfied with the situation and the business for the past season, and have never employed as many hands on bicycle work nor ran for the same period overtime as we have this year," is the summing up of the New Departure Mfg. Co.

"We do not believe that comparative statements are of any real value, as there are other indications of the trade conditions to be had which are far better and more reliable as a criterion than any statement of this kind which we might make," writes the G & J Tire Co. "We are pleased with the outlook, and believe that this season promises to be the best we have had for several years. We account for this not only in the interest which seems to be manifested, but also in the weather conditions this spring, which are more favorable than they have been for several seasons past."

"We are having a most satisfactory trade. We believe, judging from our sales, that there is a renewed interest in the bicycle trade, and that it will be maintained, providing dealers and manufacturers recognize the value of putting out a grade of goods

(Continued on page 234)

Confirmation strong as proofs of holy writ.

We get confirmation every day of the truth of our old saying, "A National Rider Never Changes His Mount." As one of our customers told us some time ago, "The trouble with a National is, it never wears out." The following letter is a good example:

NATIONAL CYCLE MFG. CO.,
BAY CITY, MICH.

BLUFFTON, IND., March 15, 1902.

GENTLEMEN:—I have a National bicycle which I bought new in 1897. Its number is 4556. The frame of the wheel is about as good as new, and I am fixing it up so as to last another season or two. Will you please send me *at once* two cones for hind wheel, one cup for crank hanger, one seven-tooth sprocket wheel, felt washers for crank hanger and hind wheel. Also send me six dozen anti-rust, three or four ply spokes.

My wheel has worn remarkably well, and I can have almost a new wheel by a little expense. Send bill with order and I'll remit at once.

Respectfully,

F. C. WHITCOMB, PRINCIPAL,
Bluffton High School.



OUR BUSINESS

is making FISK TIRES.

YOUR BUSINESS

is to use FISK TIRES.

BECAUSE—WE MAKE THE HIGHEST GRADE.

YOU WANT THAT KIND.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.
SYRACUSE,
423 So. Clinton St.

SPRINGFIELD,
40 Dwight St.
BUFFALO
28 W. Genesee St.

NEW YORK,
83 Chambers St.
DETROIT,
252 Jefferson Ave.

PHILADELPHIA,
916 Arch St.
CHICAGO,
54 State St.

WASHINGTON,
427 10th St., N. W.
SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] **\$2.00**
Single Copies [Postage Paid] . . . **10 Cents**
Foreign Subscription **\$3.00**

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, MAY 22, 1902.

The Situation to May 1st.

While not as complete as might be wished for, the state of trade up to May 1, as disclosed by the expressions published in another column, loses none of its interest and stimulative properties.

In gathering the information a curiously cautious and wholly unexpected attitude was developed in several directions. While willing to admit, man to man, that their particular businesses bore substantial evidence of the renewal of cycling interest, these manufacturers did not wish to be quoted nor to be represented as saying anything of the sort. They fear that, did the impression in any form get abroad that once more there were "millions in the bicycle business," it might induce another rush of fortune seeking fools where only angels dare to tread. These makers therefore urge that rose hues be applied with cautious hand.

Whatever the merit of such contentions, the opinions presented make plain that while none is inclined to "holler before he is out of the woods," the general situation is emi-

nently satisfactory, and that quality, as we early in the year predicted would be the case, is telling as it never told before. Heroic measures to dispose of old stocks have caused worry in a few places, but the fact that the cut-throats who purchased them to unload at bargain counter prices have not yet completed their unloadings is a sign not without significance. The general clean-up of factories and the shyness in making up any considerable quantities of cheap bicycles have almost denuded the market of such goods, and for a time at least a veritable shortage at sharply advanced prices has resulted.

It is too much to say that every bicycle manufacturer has shown an increase. We know better; but in nearly every instance the reasons are not far to seek.

One of the most remarkable features of the season has been the enormous demand for tires. It required no word from the manufacturers to disclose that the market has almost hungered for tires. Where they have all gone is difficult to say, but the demand has existed, and has been and is being met. Whether it signifies what some have maintained, that there has been a mighty and unprecedented overhauling and refitting of long unused bicycles, the fact remains that the tire trade has enjoyed and is still enjoying a great inning.

That the coaster-brake would score heavily was beyond doubting. It has done so, of course, but at that there is still a vast and rich field for it to conquer. Even in the trade there are many who are yet sceptical or lukewarm, and who do not make the most of it. But its merit will not down, and appreciation and demand must so grow with years that the fixed gear will become a rarity. The coaster-brake trade has rich pickings yet in store for it.

One Problem Solved.

How quickly problems which seem almost unsolvable solve themselves is nowhere better illustrated than in the case of brakes.

For years designers and inventors worked to devise a satisfactory brake, and they gave it up in despair just about the time when riders had made up their minds that they might as well dispense with brakes altogether.

Spoon brakes in a multitude of forms, band brakes, brakes in special design—all had been tried, found wanting and discarded. We had become a nation of brakeless riders, even women being found among those who

disdained to use these extremely useful and important articles.

Then came the coaster-brake. It appealed first and most strongly as a coaster; its braking facilities were deemed of secondary importance, where they were not overlooked altogether.

The hub-contained brake had been tried before, and it would not go. Whatever its good qualities might be, they were not deemed of sufficient importance to warrant riders in adopting a device embodying them. So the Doolittle proved to be a flash in the pan, and passed into oblivion.

Even to-day it is in its coasting aspect that the coaster-brake obtains most recognition. But little emphasis, comparatively, is laid on the brake. It is only occasionally used, while a rider can coast at any time the grade favors him, say most advocates.

Nevertheless, the brake is winning its way. It reveals itself in its true light every now and then, and once a rider has begun to suspect the truth he goes on until he ranks the brake as of importance equal to the coaster. He gets to relying on it more and more, to admitting the almost incalculable benefit conferred by it.

Meanwhile the search for the satisfactory brake has stopped short. No one wastes thought on the subject. To-day the cycling world is divided into two camps: those who don't want brakes and those who do. If they belong in the latter class they take the coaster-brake and give never a thought to anything better, because they know by experience that it is quite good enough.

Cushion Frames and Coaster Brakes.

Whatever fatigue came from constant riding, until these two factors made their appearance, was put down to the conditions of the road and weather. To be more explicit, whenever riders became tired they immediately attributed it to poor roads and hilly grades and to wind and temperature. Extensive riding with fixed driving and rigid frames, offset by almost equally extensive riding with coaster-brakes and yielding frames, furnishes evidence that the real fatigue from riding, all else being equal, comes from the constant necessity of pedalling, no matter how much relaxed, and from the equally constant pounding of the stiff frame. These under the first named conditions.

No matter how much the let-up may be in pedalling with fixed gears, there cannot be

an entire relaxation of the muscles used in pedalling. It is true that under the positive conditions of riding down notable grades the feet could be placed on coasters attached to the bicycle, but whatever was gained in the one direction was generally offset in another, because the feet were not in a position to be utilized in sudden emergencies.

With the rigid frame is set up another cause for fatigue. The muscular effort used in pedalling is necessarily at the expense of nerve force. What the loss of nerve force is, under the pounding of a non-yielding bicycle frame, can only be guessed; but, whatever the loss, it must of necessity take away from the net value of sustained pedalling, minus reflex action.

That these were positive factors in reducing the riding of many, those who run may read. It is equally evident that the opportunity is before any bicycle dealer to renew the interest on the part of many of those who have given up riding, by just these two pleasure giving advancements.

Too often the trouble with a dealer whose business has sagged is that he has drifted into accepting conditions as they are on the surface. He has been too prone to fall into the belief that the good days have gone by. The thing for him to do is to study, particularly when he must have ample time if trade is as dull as he represents it to be when he walls.

If he will hark back to the times when he did more business he will find that he was the factor that made much of the conditions as they were. When manufacturers brought out new things the dealers took hold of them with faith and enthusiasm. They used these new things, talked these new things and spread the faith that was in themselves. The whirligig of time has brought back a renewed interest in cycling, and the motor bicycle is not the only condition that presents itself as an argument to once more take up riding. The coaster-brake and the cushioned frame are wonderful factors in giving pleasures to cycling that were not known half a decade ago.

Hunt out those who gave up cycling because it was too "energetic," give them the same proof that was furnished them in the earlier days, put them on the modern machine and let them try it, and the same thing in human nature will appeal to them. More energy may be wanted on the part of the seller, but experience shows that the buyer will have to use less energy when he rides. There is here not only a balancing of things,

but a compensating condition as well. It helps pay the rent.

For the Information of Exporters.

"We inclose post order for 12s. 6d., and desire you to post the *Bicycling World* to us for one year. We use a considerable amount of American cycle goods, and find that we must have an American trade paper to keep us posted up to date. We have hitherto subscribed to the —, but we got so much motor that it has left a taste of gasoline with us. We want a genuine bicycle paper. There are no millionaires in Australia to buy and keep motors in repair.

"TURNER & PURSEHOUSE,
"Goulburn, N. S. W."

Keep an Eye on the Boy.

The business man of the future is the boy of to-day. He should be advised and guided toward habits which will make him and keep him strong in body and in mind.

Upon him will rest the burden of the disposition of commercial problems already intricate and involved. He must have a clear eye, a penetrative perception, a mental alertness and strength, and a physical capacity for hard work and great strain. The vast possibilities now looming ahead are for the brains and the hands of giants.

It is the to-day's duty of employers to give some attention to their young employes. The intelligent boy should not be treated as a machine, present in the office, shop or factory as a mere mechanical appliance. He should be considered as the living, breathing promise of future America.

The Value of an Event.

Many things can be deduced from the recent coasting contest held in this city, but to those who have been connected with the industry for any time it brought a refreshing breath of the old times when the invariable question at the conclusion of any event was, "What wheel did he ride?"

After the finish, go to any group of spectators you would, the desire was to know which won, fixed gears or coaster brakes, and following the announcement that the coaster brake took the palm, no one was satisfied until possessed of the name of the winning hubs.

The results of the contest are worth many thousands of dollars to coaster brake makers. It removed all doubt as to the free running qualities of the device, and in short order

destroyed all arguments that have been advanced by friction theorists. In fact, to those who have stood out against coaster-brakes the event was a Waterloo, and left them without a peg on which to hang an argument.

The contest also made apparent that people are again interested in bicycle competitions, and that the time is ripe for all concerned, the trade and the clubs, to organize novel events. Riders will enter them and the general public will give the seal of its approval.

Club life in America is "out of existence." There is more "Club Chatter" in the *Australian Cyclist* in one issue than appears in all the American cycle weeklies in a year.—*Australian Cyclist*.

Oh, no! There are clubs in plenty still remaining, but they long since passed the Johnny's-got-a-new-oil-can stage. Johnny and his club must now do something of general interest to get themselves into print.

What's the matter with Buffalo? It certainly cannot be all right when ordinances affecting bicycles are suffered to pass without protest, although they flagrantly contravene the State laws. Are there no clubs or League officials, or any one else, with sufficient interest to speak up for bicycles?

In the rapid and extensive evolution which the bicycle has experienced within the past ten years or so, every item in its construction has been made a study by experts, and the result is now generally regarded as a triumph of mechanical skill, combining safety, comfort and beauty.

Nowadays the successful manufacturer is not he who makes a great variety of things for the few, but a small variety of things for the many. This means that the few may come to you, but the many must be gone after.

If it had not been overworked during the past week it would be opportune to remark that Colonel Pope's broken arm comes of his not sticking to the bicycle. The horse was ever an unreliable creature.

The coaster brake can be made to increase the number of riders by just as much as it decreases the work of those who use it. It is an easily acquired habit that takes its devotees down with it.

IN THE SALESMAN'S BEHALF

Is he Justified in Discouraging a Sale?—One who Contends Affirmatively.

"Don't you think you were a little too hard last week on that man who did not want to sell a customer toe clips?" asked a salesman of the *Bicycling World* man. "Maybe he knew the circumstances of the case better than any one else, and was justified in discouraging their use by that particular man."

"It seems to me that a salesman ought to be credited with both judgment and a conscience," he went on. "If he thought his customer was better off without toe clips—which sometimes happens to be the case—didn't both judgment and conscience compel him to throw cold water on the project? To be sure, it was a little thing, and the price of the article was the least important part about it. Therefore, it might be argued that it would not have hurt the customer to buy the clips, thus helping business, even if it were only to throw them away when he found they were not suited to him."

"To go a little further into the matter, are we to assume that ethics cut no part in the bicycle business? Perhaps they don't, but, to put it another way, ought it to be so?"

"I remember well the time when I used to make my stand—as a salesman, remember—against rat trap pedals for certain riders. Lots of people laughed at me for my Quixotism in the matter; and I know that my employer sometimes thought that I carried conscientiousness to an absurd degree. He even told me so once or twice. But I believed I was serving his interests as well as those of the customer, and kept on. You see, it took some trouble to get rubber pedals then, and they cost more. It was very much easier to sell a machine as it stood, with rat traps, and wherever I could possibly stretch a point I did so."

"But there were middle aged and elderly men, and sometimes even women, to think of. I knew they ought to have rubber pedals, and if they did not know it it was my business to tell them of it, and thus earn their thanks when they did come to know it."

"Frequently their friends told them to get rat trap pedals. In such cases I had a hard time persuading them to take rubber ones; but every time I did sell a machine equipped in the former way, and the customer came back and complained of bruised or cut shins and asked why the blades of the pedals cut into his shoes, I took heart and preached rubber pedals all the harder."

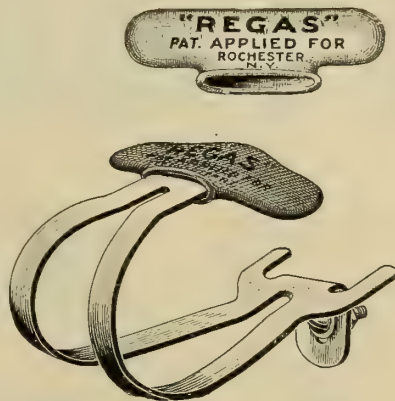
"Haven't events proved that I was right? Only a few years ago it was almost impossible to get rubber pedals. Their manufacture had almost ceased, and makers fitted their machines with rat traps as the standard equipment."

"But now the tide has changed, and it becomes easier each year to order rubber

pedals and get them without having to fight for them. This is a good thing. Every rider knows that the rubber kind are more restful for the feet, especially on a long ride, and a great many people would be infinitely better suited with them than the rat traps."

To Save the Shoes.

J. Harry Sager's fertile brain has been "at it" again. The Regas toe clip cover shown by the accompanying illustration is the result. It is made of rubber, and stretches over that portion of the toe clip that scratches or mars the shoe. Sager says it



will save its price in "shines" in no time at all, to say nothing of keeping enamelled or tan shoes from defacement. The cover is being marketed by the Regas Vehicle Co., of Rochester, N. Y.

Hard to Explain.

The observant rider comes across many curious and interesting things. So unimportant a thing as a wheel out of true brought out one of these the other day.

It was the rear wheel, and its rider remarked the fact to his companion as they rode along. Presently a clicking noise was heard, and both dismounted. A spoke had snapped and was striking the rear forkside. It was twisted around another spoke, and the two wheelmen went on. Then it was seen that the wheel was truer than before, instead of being more out than at first.

"That's because the spoke which snapped was too tight," remarked the rider of the machine. "It was pulling the rim over, and that made the kink in the wheel. When the spoke broke it let the rim go back to its normal position."

This seemed to be a plausible theory, and his companion assented to it. But a little further on a second spoke snapped, and was treated as before, and again the ride was resumed.

"Why, it's not out of true at all now!" exclaimed the rider of the other machine, who had dropped back to get a look at it.

This was true, and this despite the fact that the broken spokes ran from opposite sides of the hub, thus upsetting all ideas on the subject.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

THE KEEPING OF BOOKS

Countries in Which Negligents and Bankrupts Cannot Plead the Usual Excuse.

Proper bookkeeping is essential to sound business. In some foreign countries—for instance, in France and Germany—certain trade books are by law required to be kept, and if on bankruptcy it is found that the law has not been complied with the offence is punishable by imprisonment.

In several British colonies the failure to keep books of account, or to keep them in such a manner as to disclose the debtor's affairs, is constituted a misdemeanor or is an offence punishable summarily by the Bankruptcy Court.

For example, at the Cape of Good Hope failure to keep reasonable and proper books of accounts is deemed to be the "crime of culpable insolvency," and is punishable with six months' imprisonment. At Hong Kong the court may, on application for discharge, order a bankrupt to be imprisoned for a year if with intent to conceal he has omitted to keep usual and proper books.

In Jamaica the omission to keep and produce proper books is punishable by three months' imprisonment. At Mauritius traders are required to keep certain books prescribed by the Code of Commerce, and if on bankruptcy a debtor is found to have failed to keep such books in an intelligible manner he is deemed guilty of a misdemeanor, unless he proves that he had no intent to defraud, and may be punished by one year's imprisonment.

In New Zealand failure to keep usual and proper books of account is a misdemeanor punishable by two years' imprisonment. In South Australia the omission to keep proper books, or imperfect, negligent or careless bookkeeping, if wilful and with intent to conceal, is punishable by three years' imprisonment.

And in Western Australia a bankrupt who has omitted to keep usual and proper books is held to be guilty of a misdemeanor, and the court may also, on his application for discharge, order him to be imprisoned for two years.

In Victoria an insolvent applying for his discharge may, if he is found not to have kept reasonable accounts or entries of his receipts and payments, be imprisoned for six months.

One Road to Success.

"Sure success" is to be obtained by following this formula, if its author, a contributor to *The Foundry*, is to be believed:

- 30 per cent, Patient, persistent dig, dig, dig, at it every minute.
- 30 per cent, Reputation (founded on fact) for honest dealing every time.
- 10 per cent, Luck and fortunate circumstance caught on the fly.
- 20 per cent, Snap.
- 10 per cent, More persistent dig.
-
- 100 per cent—SUCCESS.

Received No End of Inc

"We think it no more than right advertisement in your (1901) export edition no end of correspondence and inquiries followed up by personal visits, a great ma

NOW FOR THE E

FOLLOWING

THE BICYC

WILL

3 Special Issues for

and printed in the Languages that those

ENGLISH—FRE

THE

that dominates the Bicycling World's domestic issues will again ob



NO SHYSTER, CUT-PRICE OR BA

OUR FOREIGN LISTS INSURE RETURNS to all legitimate makers

RATES ON APPLICATION.

THE GOODMAN C

One Advertiser Who Won't

"The only reason why we will not a coaster brake manufacturer, "is because foreign connections, which, with our hom can well attend to. To advertise this year to fill orders which we wish to avoid."

es From All Over Europe.

acquaint you with the fact that the Goodyear
us a lot of good over here. We received
all over Europe all of which we have since
them resulting in permanent business."

DAVIS, ALLEN & CO., London.

EXPORT EDITIONS!

ANNUAL CUSTOM

ING WORLD

N ISSUE

Foreign Circulation 3

receive them can read and understand—

NCH—GERMAN

POLICY

in these editions. They are for the benefit of the American trade.

K-ALLEY ADVERTISING ACCEPTED.



no have anything to advertise and who know how to advertise it.

PANY, 123-5 Tribune Building, New York, N. Y.

With us This Year, and Why.

presented in your 1902 export editions," says
st year's issues resulted in our establishing
le, have brought us more business than we
uld simply lead to embarrassment and failure

Received No End of Inquiries From All Over Europe.

"We think it no more than right to acquaint you with the fact that the Goodyear advertisement in your (1901) export editions did us a lot of good over here. We received no end of correspondence and inquiries from all over Europe all of which we have since followed up by personal visits, a great many of them resulting in permanent business."

DAVIS, ALLEN & CO., London.

NOW FOR THE EXPORT EDITIONS!

FOLLOWING ITS ANNUAL CUSTOM

THE BICYCLING WORLD

WILL AGAIN ISSUE

3 Special Issues for Foreign Circulation 3

and printed in the Languages that those who receive them can read and understand—

ENGLISH—FRENCH—GERMAN

THE POLICY

that dominates the Bicycling World's domestic issues will again obtain in these editions. They are for the benefit of the American trade.

 **NO SHYSTER, CUT-PRICE OR BACK-ALLEY ADVERTISING ACCEPTED.** 

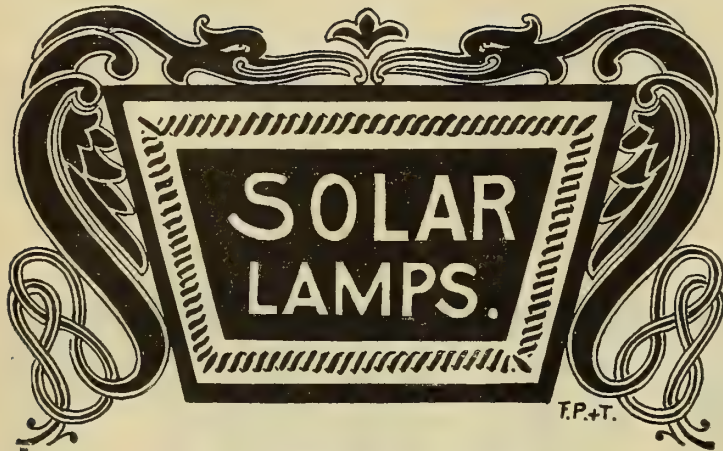
OUR FOREIGN LISTS INSURE RETURNS to all legitimate makers who have anything to advertise and who know how to advertise it.

RATES ON APPLICATION.

THE GOODMAN COMPANY, 123-5 Tribune Building, New York, N. Y.

One Advertiser Who Won't be With us This Year, and Why.

"The only reason why we will not be represented in your 1902 export editions," says a coaster brake manufacturer, "is because last year's issues resulted in our establishing foreign connections, which, with our home trade, have brought us more business than we can well attend to. To advertise this year would simply lead to embarrassment and failure to fill orders which we wish to avoid."



THE UNIVERSAL SUCCESS OF SOLAR LAMPS

for the past number of years must be due to something else than good advertising and good business methods. This something else is correct principle of manufacture. The system of gas generation used in **SOLAR LAMPS** is the only successful one and is covered by patents so that it cannot be used by other lamp manufacturers. If you want a lamp that lights easily, gives a brilliant light, stays lit under any and all conditions, does not smoke and is eminently satisfactory—purchase a **SOLAR**. For a moderate price lamp the **SOLAR OIL LAMP** is without an equal.

BADGER BRASS MFG. CO., Kenosha, Wis.

Divine Opinion of the Royal

UTICA, N. Y., April 4, 1902.

ROYAL MOTOR WORKS,

29-33 West 42nd St., New York, N. Y.

DEAR SIRS:—

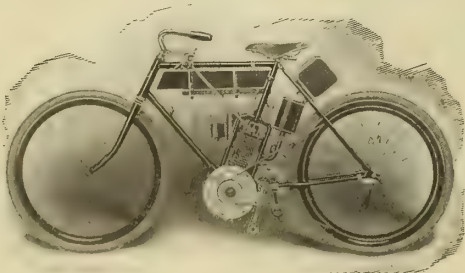
I am pleasantly disappointed in the operation of the Royal and also am well pleased with the unusual fine class of work in the construction of the machine. Central New York weather in March is anything but glorious but I have had the motor running every day for the past two weeks and have not in a single instance as yet dared to run it at its highest speed. Medium speed is good enough for me and I run around the city at better than twenty miles an hour and run from my house to the factory, a fraction over three miles, in ten and a half minutes. I ran four and a half miles a week ago Sunday on asphalt pavements, up and down hills, in twelve minutes. I go through mud, dirt, bumps, pitch holes in the pavements, practically any old thing, without stopping, and the machine goes along in its own glorious little way without any trouble at all. I run around the city "hands off" and find the weight of the motor is so distributed as to make it unusually well balanced. It is extremely easy to take care for and so far has not had the same degree of attention as I have found necessary to keep an ordinary high-grade, light bicycle in running order. It is handled so easily and is so simple that I have started a number of greenhorns on it, gave them a shove, told them to pull up on the compression lever, and started them off on a ride and they all came back happy and enthusiastic over the speed and comfort of your motor bicycle.

Very truly yours,

B. H. DIVINE.

THE MOTOR BICYCLE

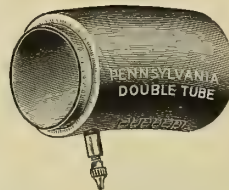
sold by a firm who has confidence enough in its product to sell it on the condition that if not satisfactory it may be returned and money refunded.



We can give you the names and addresses of scores of agents who have received the 1902 HOLLEY, and will gladly testify as to its merits.

HOLLEY MOTOR CO., 10 Holley Ave., Bradford, Pa.

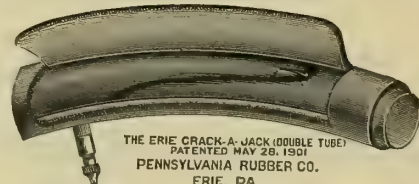
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK (DOUBLE TUBE)
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**

ERIE, PA.

BRANCHES:

**NEW YORK CHICAGO BOSTON
 BUFFALO PHILADELPHIA**



PRICE-CUTTERS' TRICKS

Methods Employed by two of the Gentry who Recently Located Here.

New York appears to be the chosen "dumping ground" this season. In addition to its resident colony of price cutters and guerillas, several birds of the same feather have migrated this way and located their nests in the downtown district.

The songs they sing to lure the unwary are all pitched in the same key. Their advertisements bristle with falsehood, exaggeration and odd figures, and as no one else is advertising bicycles in the metropolitan dailies, if the public is not imbued with the idea that only the guerillas are doing business and that no bicycle is bringing its full price, it is not because the legitimate trade is doing anything or spending a penny to exert a contrary influence.

One of the "birds" that recently took up their abode here, the Combination Bicycle Co., is a fair example. Each morning there are to be seen their advertisements giving such information as:

"Agency for all American makes."

"This new store is to cut down the heavy expense which has marked the sale of high-grade wheels and kept their prices to exorbitant figures. We have just closed scores of expensive agencies, laid off their high-priced managers and with the thousands of dollars thus saved we cut prices as follows."

"A dozen former agencies consolidated into one great store, making a saving of \$50,000. Prices on all American companies' wheels cut."

These leading statements are generally followed by a list of at least a dozen famous makes of American bicycles. Well known names are preceded by some sort of a list price and followed with a cut price representing anywhere from 60 to 70 per cent discount.

The advertisements also furnish the information that "the entire stock of the big Washington branch, just closed, is here and must be sold."

Realizing what a splendid opportunity was before him to study all the various makes—for did not one advertisement say "agent for 'all' American makes"?—a Bicycling World man dropped into the store, incog, and at once asked to see a Sterling bicycle.

"Certainly," was the suave response, and out into the aisle was pulled a bicycle that looked as little like the one asked for as could be thought out by the wildest imagination.

"Why, that is not a Sterling," was the rejoinder. "Well, it is made by the Sterling Mfg. Co.," was the defence put up. On examining the nameplate such was found to be evidence offered by it, together with the name of a small Western town.

On insisting that "the" Sterling was the only machine that would be considered in

this instance the salesman showed that he knew the machine by saying that they had had "six or seven of those green machines, but had sold them all."

He was reminded that the company was agent for "all American" makes, and that perhaps they would have some more. "No, we won't have any more of those. I can sell you a Barnes, though, at \$22.50, fully equipped—that Sterling (?) machine that I showed you would be \$19.50—and, of course, this Barnes is the real bargain of the two. Better let me sell you one. As soon as we sell them we've got we won't handle them any more."

"How about that agency for all makes, then?"

"We bought out the Capitol Company, of Washington, and, of course, that made us agents for the machines they had. When



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

we buy any machines, that makes us agents for them."

This was certainly a new one in the matter of agencies. It explained a whole lot, though, as to the methods of the concern.

A general view was then taken of the stock of bicycles on hand, and, as was to be expected, the prominent machines used for "come-alongs" in the advertisements were conspicuous by their absence. The bicycles on hand were either of the Sterling Mfg. Co. kind or else machines built by factories now non-existent. On some of these a two years' guarantee was offered, but no amount of probing could bring out how the guarantee would be lived up to beyond the general statement that "we are good for any guarantee we make." This in face of the fact that only the most temporary occupancy was evident on all sides.

The next call was made on "The Great Bargain Resort," which advertises:

"Our system of forcing dealers who want American Flyers to give us stock in return is what hammers prices in half here."

"Here" was found a "system" that was truly marvellous any way you look at it.

When asked for an outline of how the thing was done it was explained that, in

the first place, they were large makers and could turn out bicycles at small cost. They then went to the small dealers of the country and exchanged their brand new goods for any that the dealers had left over from last season. In this way the small dealer could offer his customers fresh goods and get rid of his left-overs.

In looking around to find out how much had been appreciated the philanthropy of offering new goods for old, also how gullible the small dealers had been in giving up well known makes for a bicycle no one had ever heard of, only four or five machines bearing recognized nameplates were in evidence. Either philanthropy had had a cold reception or few dealers had been found who carried over any machines they wanted to swap. The American Flyer seemed to have had its wings clipped just after landing in the store from the factory. The "system" needed toning up with some spring medicine. Forcing the dealers to give stock in return had lost its strenuous qualities.

In seeking for bargains in time-tried and popular makes it was found that the old dodge of offering stripped machines was resorted to. Of course, the excuse could be put up that this left open the many changes in equipment demanded by a large "clientele," and as these changes varied in price the only real way was to sell the machine independent of them and finish as wanted, charging accordingly.

It must be confessed, however, that little room was left for appreciation of this fitting-up-to-order proposition, in the fascination of trying to figure out the "stock in return" problem. If you exchange a new unknown bicycle for a well known make and sell the latter at a cut price, and in addition—but what is the use? Euclid died 2,200 years ago.

Importance of a File.

"A good flat file costs only a few cents. It needs no handle. Carry a spare chain link. If your chain gives out in some never-never part, you are done unless you have a file," says a contemporary.

"Our experiences in this direction are a six mile run to a blacksmith's shop through a chain breaking partnership, and six miles back. A ten cent file would have saved all the trouble and delay.

"These precautions are particularly necessary this season, owing to the very dry nature of the roads, which consequently try the qualities of the machine to the utmost.

"Do chains often break? No, not often; but when they do, a file is like a friend in need—comforting, soothing, mending. Of course, it is needless to say that a spare rivet or two should be in the toolbag. A wire nail will do in a pinch. With your wrench you can 'burr' the ends enough to make the rivet hold fast."

Track Owners Incorporate.

Atlantic City, N. J.—The Atlantic City Cycle Coliseum Co., with \$20,000 capital, to erect, lease and operate motorcycle tracks. Incorporators, David W. Laws and Oliver F. W. Warner, of Baltimore, Md., and W. G. O'Brien, of Atlantic City.

WHEN MAY CAME IN.

(Continued from page 223)

that will be fairly satisfactory," is the statement and opinion of W. B. Miller, secretary of the Diamond Rubber Co.

"From October of last year to May 1 of this year our bicycle tire trade has been considerably more than for the same time last season, and we believe last season was the best that we have ever had," states the Kokomo Rubber Co. "The month of May, 1901, was our banner month, but we doubt whether the present May will hold up to the same percentage of gain."

"Our volume of business this year as compared with last shows an increase in sales up to the first of May of more than 20 per cent," says the Eclipse Mfg. Co. "We are therefore very much of the opinion that there is a renewed interest in the trade, and, furthermore, we believe from all indications that this interest is increasing from day to day, and that prospects for the balance of the season are extremely good. This is the way the situation looks to us, and we only trust that the results for the remainder of the season may bear out our predictions as well as they have for the fore part of the season."

"Although our company has only had the Universal coaster-brake on the market since last June, we have made quite a showing. We cannot tell now what we would have done had we been ready in the earlier part of the season, but this season, since November 1, we have contracted and sold more brakes than we will be able to manufacture this year," writes the Universal Coaster-Brake Co., Buffalo.

"Our bicycle tire business for the year 1902, which we date as beginning the first of last September, has thus far shown an increase of a little more than 25 per cent over the same period of the year previous," writes the Goodyear Tire and Rubber Co., and adds: "Undoubtedly the bicycle business is a permanent one."

"An approximate comparison of the volume of this year's business to May 1 shows that we are doing a better business this season than we have for the past two seasons; this is particularly true of the bicycle tire business, which has exceeded our expectations," say Morgan & Wright.

Are Rear Lights Needed?

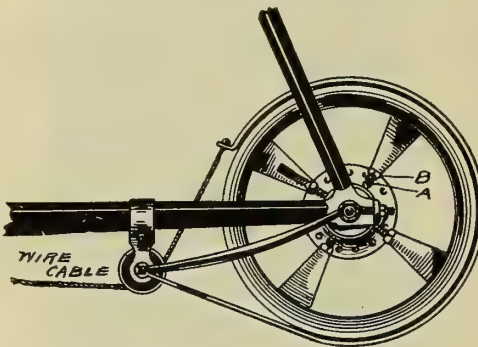
The question of the necessity for rear lights has been raised by a correspondent. He points out that until the advent of the motor vehicle the bicycle was the fastest vehicle on the road, and as the wheelman was rarely overtaken the question of carrying a rear light never came up.

Under the new conditions he thinks it by no means uncertain that it may not become desirable for the cyclist to have a lamp showing a back light as well as forward and to the sides. Prevention being any day better than a cure, he thinks he will try it.

An Australian Coaster Brake.

Melbourne, April 16.—As was mentioned in my previous communication, the tariff as it related to cycle material did not please the local trade. It was reconsidered, but by some means all cycle parts, finished, plated or unplated, were put under the same charge as the finished machine, 20 per cent, while parts in the rough are taxed 10 per cent. The items have been recommitted, and will probably come before the House this week.

The adoption of the automatic coaster during the past six months has been phenomenal. The devices in use are fairly spread over the following patterns: Morrow, Wyoma, Canfield, New Departure, Moderatum, B. S. A. clutch, with various kinds of brakes—back-peddalling rim and hub brake and front rim and tire brakes. Quite a number of riders prefer the free wheel with an independent brake. They claim that it gives greater freedom to the feet and lessens the complication arising from both brake and



coaster in the confined space of the rear hub, besides better distributing the weight of these adjuncts and preserving the "life" or sweetness of running the machine. A locally patented hub brake called the Mushroom is finding a good deal of favor. The drum, which is V shaped in section, is attached to almost any hub by four dogs, which are screwed down.

A, dogs biting on hub. B, nuts by which dogs are forced onto hub. The band is lined with wedge shaped leather or belting to fit V shaped drum.

The cable passes under the crank hanger, up under the bottom main tube, over the pulley attached to the head tube to the handle bar, and is operated by drawing upward, a button or crossbar being fitted. The revolution of the wheel helps to tighten the band, which has a wedging action as well as constructive force, and the wheel may be blocked without undue effort.

A. B. C.'s Securities Quiet.

For the week ending May 17 A. B. C. stocks fell off a little, both in sales and price. Common was dealt in for 2,650 shares at 6 $\frac{3}{8}$ to 7, a net loss of 1. Preferred saw a movement of 2,600 shares, ranging in price from 21 $\frac{1}{8}$ to 22 $\frac{1}{2}$, the net loss being $\frac{1}{2}$.

Trading on Monday of the current week amounted to 400 shares of common, prices ranging from 6 $\frac{1}{4}$ to 6 $\frac{1}{2}$, closing at 6 $\frac{3}{8}$. In common only 100 shares were dealt in, at 22.

His Troubles Still Continue.

"Talk about luck!" exclaimed the Old Timer the instant he was able to secure the *Bicycling World* man's ear. I have had my share of it the last few weeks—bad luck and good luck both.

"It's those plaguey tires," he went on. "Never did I have such a time with them since the old days when we expected to walk home if we couldn't fix a tire. I've had more mishaps in the past two weeks than in all the rest of the past two years."

"It was only last week that I punctured my tandem tire, and was caught without anything to fix it. Last week it was the turn of my single, and, in spite of the warning I had had, I was still minus a repair kit. So there was no one to blame but myself."

"A twisted and curled piece of wire, with a sharpened end, was the miscreant. I picked it up on a firebrick street, and the sound of it striking my rear fork drew my attention to it. But if that was my day's allowance of misfortune, my good luck counterbalanced it; this in the shape of a companion who was provident enough to carry a repair kit. With this we got to work, and in a very few minutes had extracted the wire and plugged the hole and were off again."

"The strangest part of it was that my friend's kit was one that had not been used since last year; and the tube of cement had been placed in it just before the start, he having found that the cement in the old one was dried up. It was touch and go whether he would take the time to get a new one, but a desire to be prepared for puncture carried the day, to my subsequent great joy."

German Exports Still Increasing.

Germany's cycle exports are still on the increase. For the first quarter of the year they show an advance of 35 per cent, compared with the same months in the last two years. Great Britain took 1,396 cwts., against 876 cwts. last year; Belgium, 752, against 630; Denmark, 1,716, against 1,271; France, 782, against 366; Holland, 2,212, against 1,164; Austria, 1,592, against 1,120; Switzerland, 1,030, against 694. Only a few smaller countries show slight reductions. The export of motorcycles has, however, declined; it has been reduced from 84 cwts. to 48 cwts. For the same period Germany's cycle imports show a decline of 120 cwt.

Flaking the Most of a Victory.

D. P. Harris, the Eastern distributor for Adlake bicycles, is naturally pluming himself on the victory of the Adlake in the Metropole Cycling Club's coasting contest, and, better still, is making capital of it in a way that recalls the "good old days"—that is, by advertising, so that all may know of it. J. L. Miner, who has been in charge of Mr. Harris's bicycle department for the past four years, states that the effect of the Adlake's victory in the coasting contest is distinctly apparent, having caused more talk and inquiry than any event that has transpired for several years.

BICYCLE'S SEVERAL STAGES

The Ringing of the Various Changes—How Present Perfection was Attained.

The evolution of the bicycle is one of the most fascinating studies in engineering. It is, of course, fairly well known, but for it can be said that to those most familiar it is most enticing. The really remarkable race in the development began about seventeen years ago.

It was recognized that the old fashioned form, the high or "ordinary" wheel, was unsafe for the average rider, and an effort was made by inventors to devise a machine so low that the rider would not fall far in an accident and that he could mount with ease and safety. Several ungainly devices were planned and used for a time, and then the evolution of the modern "safety" bicycle began in earnest.

Before long the principle of equal sized wheels, with the rider sitting a little back of the middle, was adopted as most conducive to speed, power and safety. The early attempts to produce this type of wheel had suffered because of a lack of suitable power transmission devices. The development of the woman's safety followed immediately this point was fairly well settled.

As soon as the plan of direct pedalling was abandoned the troubles of the inventors and makers began. But gradually the chain and sprocket were perfected until it was found that the "safety" wheel was to all intents and purposes as economical in power transmission as the old direct pedal wheel.

In the minds of many, however, there were yet disadvantages. Dirt clogged the links of the chain—a thing that was objectionable to some. To overcome this the gear case was brought out, and while it attained considerable popularity in England it failed to "catch on" in this country. It required constant attention to keep it from rattling, and is now losing ground in the field of its most former favor. The best solution of the subject had its inception in this country, in the chainless.

In the matter of bearings the inventors made a great advance early. They soon abandoned the old style hub, with a steel rod bearing upon a steel sleeve, causing a maximum of friction, and began to work upon rolling bearings. Cones were first used at the bearing points, but with little success, for the edges of the cone bases broke and caused a destructive grit.

Then came balls, giving the approximately perfect, frictionless bearings. Later changes only affected the method of setting the balls and preparing the grooves and channels. Tires, too, went through several phases of change, from the first wooden rims to hard rubber, then to the slightly hollowed "cushion," finally to the pneumatic tire.

Having reached this stage, the changes

were minute in detail rather than in principle. The framework of the bicycle underwent similar changes, though less radical, the chief advance being in the perfection of light but strong machines, until now the frame of a bicycle capable of standing hard usage is composed of tubes of almost paper thinness.

In pedals, saddle, handle bars, reinforcements and the like there was meanwhile a constant tendency toward simplification and comfort, until the bicycle stands to-day as a marvel of lightness, strength, durability and ease of running.

During these latter stages two important changes have been taking place that have not received the attention from the buyers which was due them. These are the coaster-brake and the cushion frame.

For a Novel Contest.

Following their recent coasting contest, the aggregation of cycling revivalists who constitute the Metropole Cycling Club, of this city, have planned a "strike-the-iron-while-it's-hot" programme, which should go far toward keeping things wide awake.

For the first or second Saturday in June they have outlined a contest on strikingly original lines. It may best be termed a "coast and pedal race," the idea being to confine the event to riders of bicycles fitted with coasterbrakes, and to award the prizes to the contestants who coast the most and pedal the least over a given course of about ten miles. The race, of course, will require the use of a coaster cyclometer, or of two cyclometers, one on each wheel.

On June 21 the club is due to open the metropolitan racing season at Manhattan Beach track with an invitation meet. Some 50,000 invitations will be extended. On July 4 and 5 its motor bicycle endurance run from Boston to New York takes place.

Willis Gets the Holley.

The Willis Park Row Bicycle Co., of this city, has taken on the agency for the Holley motor bicycle, which, with the others previously in hand, gives Willis a varied line. He is making the most of them, too, having personally developed into a rider and enthusiast of the red hot order. The effect is showing itself in substantial orders. In two days last week he sold five motor bicycles.

DeLongs go to Syracuse.

The Industrial Machine Co., which has been operating in Phoenix, N. Y., near Syracuse, has leased a plant in Syracuse itself. It will give them larger and better facilities for the manufacture of their De Long motor bicycle.

Finds a Tenant at Last.

The Worcester Cycle Co.'s plant, at Middletown, Conn., which has been vacant for so long, and the subject of considerable litigation, has at last found a tenant, in the Baker Mfg. Co. The latter company was recently organized, and will make motors.

MOTOR BICYCLES ABROAD

How They Differ in Design and What the Indications Suggest.

In view of the increasing motor bicycle trade in this country it is interesting to compare it with that of England. At the present time there are nearly twice as many machines being advertised in the journals of that country as are finding a like publicity here.

The favorite position for the motor is to hang it under the lower main frame tube and well back. In this construction the diamond frame design is maintained with thicker gauge tubes. In almost every instance where this design is used the motor is of one make that has been pushed for this work, the motor maker not competing with a finished machine.

While this type predominates at the present writing, indications point to a sharp competition on the part of a number of makers who are striking out on lines of original conception. These makers, as a rule, are placing the motor in an upright position just forward of the pedal crank hanger, with the motor crank case varying in its up and down position, relative to the crank hanger. This variation runs from a position bringing the lower end of the cylinder on a line with the crank hanger to a point four or five inches higher.

The position of the motor over the front wheel is now advocated by only two makers. The position in the diagonal has a half dozen friends, but the line of the motor varies from the position parallel with the lower frame tube to one in line with the seat post tube. Between these two extremes there are to be found one or two makes.

A position directly back of the seat post tube finds only one strong advocate, while the type, so prominent in this country, having the motor replace most of the length of this tube, has not yet been copied.

A very heavy looking affair that is being prominently pushed has a long frame with a four cylinder engine slung underneath. It has water cooled cylinders, with direct drive, and is of large power. It is not as pleasing in appearance as most of the other machines, and all indications point to a limited demand.

Man and His Mistakes.

We suspect that President Roosevelt is not entitled to undivided credit for his expressed thought that "the only man who makes no mistakes is the man who never does anything."

The statement is true just the same; and if he who makes the mistakes will but profit by them his advance will be entirely satisfactory, wisely remarks a contemporary.

For falling out of bed once we forgive Willie and apply the oil of sympathy; but if the "mistake" be repeated every morning the strap replaces the sympathy.

The underlying law here is universal, and applies to big men as well as little men.

SLOWER, SAYS PHILADELPHIA

Autos too Fast for Quaker City Solons so They Curb Bicycles as Well.

Although long a dead letter, an antiquated law on the Philadelphia statute books is to be strictly enforced in future, if an ordinance pending before the Councils of that city is passed, and all on account of a feeling which exists against automobile speeding.

Slowgoing old Philadelphia has got used to bicycles and trolley cars, but she balks at automobiles. They are both new, and, according to Philadelphia ideas, fast. Consequently the edict goes forth, or will if the ordinance becomes a law, that no vehicle can rush through the streets of that city at a greater rate of speed (?) than seven miles an hour. Fines ranging from \$10 to \$50 are to be levied for infractions.

The ordinance is as follows:

"An ordinance to regulate the speed of automobiles, bicycles and all other vehicles in the streets, roads and all other public ways in the city of Philadelphia.

"Section 1. The Select and Common Councils of the city of Philadelphia do ordain, That from and after the date of the passage of this ordinance it shall not be lawful for any person or persons to propel or cause to be propelled, on any public street or any other public way in the city of Philadelphia, any automobile, bicycle or any other vehicle of any kind by whatsoever name they may be called, at any faster rate than is now permitted, 'which is not faster than seven miles an hour,' for vehicles drawn by horses or mules, and that for each offence the person so offending shall be liable to immediate arrest, and shall be fined not less than \$10 nor more than \$50, at the discretion of the magistrate, which fine shall be collected as fines of such character are now collectible by law."

No action has been taken on the ordinance as yet. The Committee on Law is wrestling with the matter.

Buffalo Violates the State Law.

Because of a hue and cry against automobiles, Buffalo has passed an ordinance restricting the speed of "all automobiles, bicycles and all other vehicles, no matter how propelled," to the absurd speed of seven miles per hour. Despite its absurdity and the fact that it is a law that cannot be obeyed, neither cyclist, automobilist nor any one else appeared to oppose the passage of the law, although it is direct violation of the Doughty act, which set eight miles an hour as the State minimum, and expressly forbids local authorities to pass ordinances requiring a slower pace.

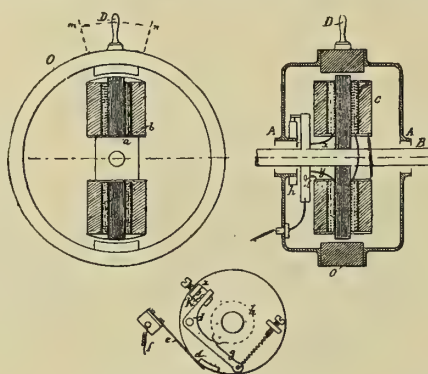
"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

Dispensing With Dry Batteris.

Quite a number of new ignition devices made their appearance at the recent automobile exhibition in Paris. Among others was a system called the Croissant, introduced by M. Allain, of Anet (Eure-et-Loire), France, in which the use of dry batteries or accumulators is dispensed with. The arrangement, which was shown fitted to a tri-cycle, consists of a high tension induction coil and current generator combined in one.

The inventor conceived the idea of driving an induction coil at a uniform speed of rotation within a permanent magnet and to collect the current therefrom at the required moment. This, owing to the mutual induction between the two windings, is not directly practicable, but the difficulties have been overcome in the following manner:

A permanent magnet, O, of circular form, is provided with two end bearing plates, A A, in the bearings of which turns the shaft



B, which supports the induction coil C. This coil rotates within the circular magnet, the shaft B being driven from the engine. The coil has two windings, the extremities, x, y, of one of which, a, composed of heavy wire, are connected to the interrupter I; the other, b, of fine wire, has one of its terminals earthed and the other one connected to a contact, d, carried by an insulating plate.

The current induced at each revolution in the winding a, is interrupted at K by the raising of arm g, by cam h. The interruption of this current induces in the secondary circuit a momentary current, which from contact d, flows through brush e, and the wire connection f, to the sparking plug, jumps across the gap between the plug terminals, and returns through the engine frame, to which, as stated, the other extremity of the coil is earthed.

Provision is made for advancing and retarding the sparking, this being effected by means of the handle D, which moves the stationary part of the spark generator in relation to the rotating coil through a certain angle.

The generator may be driven directly from the engine shaft, or may be actuated from it by any convenient positive transmission device. It is claimed for the apparatus that it is less bulky and weighty than the usual arrangement of accumulators and induction coil.

The only external piece that needs attention is the conductor connecting the apparatus with the sparking plug, so that the chance of ignition troubles due to short circuits or faults in the wires is greatly reduced.

ALPHAS BECOME AMBITIOUS

Metropolitan Motocyclists Plan the First Organized Tour in This Country.

An extended run for motorcycles, practically the first of its kind, has been arranged by the Alpha Motorcycle Club, of New York, for Decoration Day, May 30, and the two days following.

The plan is to leave Jersey City at 8 a. m. sharp on Friday, May 30, riding via New Brunswick and Princeton to Trenton (68 miles) for dinner. Leaving at 2 p. m., ride to Philadelphia (30 miles), where stop will be made overnight.

Saturday, May 31, ride to Atlantic City (56 miles), reaching there about 1 p. m. This portion of the ride is over the famous White Horse Pike, which stretches from Camden across the State of New Jersey to the ocean without a break, and is the finest section of road in the country. Some fast riding is expected.

Leaving Atlantic City at 2 p. m., ride up the coast through Barnegat and Toms River to Point Pleasant (50 miles), stopping there overnight.

Sunday, June 1, ride up the shore road through Asbury Park, Long Branch, Red Bank and Matawan, taking dinner at New Brunswick (50 miles). Leaving at 2 p. m., go via Perth Amboy and Staten Island, reaching New York about 5:30 p. m.

This is a run of about 300 miles in three days, over fine roads. The extent of poor roads for the entire distance is not over eight miles, and those may be easily ridden. Full details of the route, roads, stops, hotels and the various controls, where the slow riders may overtake the pacemakers, have been carefully worked out. The schedule as planned will be maintained by the pacemakers, and riders are expected to do the same, as only necessary and indicated stops will be made.

Plans of route in full detail, showing roads, etc., and giving explicit directions for covering the course, will be furnished to each member of the party by the captain G. M. Fisher, jr., 108 Worth street, New York City, to whom unattached riders of motorcycles desiring to make the trip with the club should make application, and of whom any information may be had.

He Oiled His Tires!

Proof that knowledge of how to use a bicycle is not universal was recently proved in the following manner: An elderly cyclist complained that his tires, of well known make, were rapidly wearing out, as were those of a friend of his. On inquiring closely into the matter it was learned that he oiled his tires regularly and had advised his friend to do the same. This reminds one of the advice once published in a semi-technical journal that petrolatum was a good preservative of tires.

GRIDLEY KEPT NO BOOKS

Syracuse's Noted Bankrupt Takes the Stand and Makes Some Amazing Admissions.

When a man fails and in natural order washes his linen in the Bankruptcy Court unusual situations and admissions generally result. F. W. Gridley, former head of the Olive Wheel Co., Syracuse, N. Y., was not among the exceptions to the rule. He came up for examination on Thursday last, and although his liabilities amount to nearly half a million he treated the matter as something of a joke. Although he had been a bank president, among other things, he unblushingly asked the court to believe that he had kept no books and relied solely on calendar memoranda to keep himself informed of his obligations. Like many other bankrupts, Gridley drew his wife and his mother into the proceedings.

The first question concerned Mr. Gridley's first business venture. He was unable to recall what it was, but afterward said that he began business in the banks as a "runner" without salary. He received ten shares of bank stock from his grandfather, which gave him a start in business, but he could not recall where or how he acquired later securities other than he paid cash for them.

"How much of the stock of the bank did you and your family control?" he was asked. "I do not recollect," said the ex-banker.

"Wasn't it because your family controlled the stock in the bank that you were elected president?"

"I do not think so."

"How much salary did you command as president of the Salt Springs bank?"

In reply to this question Mr. Gridley answered, "\$2,500," and added that he received the same salary as the cashier.

"Did you ever get any money out of any other enterprise while you were a bank president?" asked the lawyer.

"I received \$5 per meeting, the same as any other director," was the answer.

"Now, Mr. Gridley, where did you keep the money which you received from these different sources?"

"Oh, in various banks."

"Did you ever have money in every bank in the city?"

"I guess I did."

"Is any of your money in the banks now?"

"Not that I know of. I would like to see a little of it."

"Where did you go on the first of November?"

"I went on a trip through the West."

In answer to a series of questions as to this trip, the conditions of his business and his papers on his return, Mr. Gridley said that he found that his desk had been opened and papers had been disturbed. Mr. Gridley said in answer to another question that he

gave his attorney the liberty of opening his desk.

There was some argument as to how and when the lawyer received his authority; when the latter asserted that he had the letter giving him authority the inquisitor promptly rejoined:

"All right; I will wait till you go to your office and get it."

"You can't have it now," responded the attorney.

"Mr. Gridley, did you make any inquiries as to who disturbed these lost papers of yours?"

"I did, of course."

"How did you carry on your business—where are your books?"

"I didn't keep any books. I never did."

"How did you keep your accounts?"

"I generally kept a small account on my calendar."

"How did you know that a bill was paid unless you kept an account?"

"My wife, I think, kept the bills and receipts."

"Where are they?"

"I suppose they are up at the house."

"Why didn't you bring them with you? Don't you know that you were ordered to present all your papers here to-day?"

"I told you that I don't know that it does contain any of my papers."

"From whom did you borrow money in the last year?"

"I think I got some from my mother."

"How much?"

"I don't know."

After considerable questioning Mr. Gridley said: "I think I must have received forty or fifty thousand."

"Did you transfer the Salt Springs bonds to your mother?"

"I did not."

"Do you still own the block?"

"No."

"When and to whom did you transfer the title of the block?"

"Oh, about the first of September, 1901, to my wife."

"What was the consideration?"

"I don't exactly recollect."

"Did you get cash down?"

"Not all. I owed her some money and notes."

"How much was the Gridley block worth last September?"

"Perhaps \$140,000."

In answer to other questions the bankrupt said that he had also transferred his equity in the Onondaga street house to his wife. He said there was a mortgage of \$15,000 upon the property before the transfer.

What so Rare as a Step!

The changes that Time has wrought was aptly illustrated on Sunday last by the sudden exclamation of one of a party:

"For heaven's sake, look at that!"

The "that" was a wheelman who mounted from a step on his bicycle—a sight that is so rare nowadays as to justly excite such remark.

MADE GAS LAMPS POSSIBLE

How a One-Time Brooklyn Cyclist Discovered Carbide—Result of Smoking.

Many times has the story been told, yet of the many thousands of cyclists whose pathways are now so brightly illuminated by acetylene how many know what they owe to happy chance in having this illuminant at their disposal? Few know and perhaps few care; still, there are some who would like to hear the story of the "accident" as told by one who claims to have been on the ground at the time:

"Some years ago Thomas L. Wilson, of St. Catherine's, Ontario, Canada, was smelting for metallurgical purposes. From time to time he used considerable rock salt in his furnace stock, along with limestone as a flux. Whenever these two materials were fused together the slag produced by the intense electrical heat included a dirty, grayish substance wholly unlike anything else he had ever seen.

"For weeks Experimenter Wilson noticed this unknown substance without giving more than passing attention to it, dumping it into the stream upon whose banks his experimenting was being conducted. One day, at a time when the pile of slag had become so large that its top rose above the surface of the water, a curious thing occurred.

"A minute or two after dumping the slag as usual into the stream, some of it going beneath the surface and some remaining above the water in a red hot state, the sizzling and steaming was followed by a bright burst of flame.

"The very next time Mr. Wilson fused rock salt and limestone the blaze again appeared over the slag after it had been cast into the river, and, it being at night, he was astonished by the brilliancy and whiteness of the new light.

"When in the course of further experimenting Mr. Wilson found himself possessed of another batch of that queer gray residue he did not throw it into the stream as he had been wont to do, but, saving it, poured some water over it and awaited results. These were disappointing—there was no flame.

"Lighting a match that he might smoke while he studied out the problem, he threw the unused and blazing end of the match in the wetted mass in front of him, and instantly there was a white, glaring flame over the pile.

"Wilson was not slow to see the value of his discovery, and future experiments gave calcium carbide as a name to the grayish unknown substance, and acetylene gas to the bright burning products derived therefrom."

Incidentally, it is not generally known that Mr. Wilson is an old cyclist. He was for years a member of the Kings County Wheelmen of Brooklyn.

RACING

As a team in the twenty-five mile professional race at Vailsburg on May 18 Kramer and McFarland had no trouble in finishing first and second. Alexander and Carni and the Bedell brothers also rode as teams. There was not as much excitement at the finish as usual, owing to the fact that McFarland and Kramer displayed excellent judgment during the entire race, the other riders allowing McFarland, who did the pull act for Kramer, to get just about any position he chose at any time during the race. Occasionally there was a half-hearted attempt to steal away by one or another of the riders, but nothing was accomplished, inasmuch as the leader in most cases was working by himself. After laying well out of the race for almost the entire distance it was expected that Collett would give Kramer an argument when the wind-up came. While his intentions may have been well planned, his judgment in securing a good position the last time around was poor, and his final execution only landed him in fifth place at the finish. As usual, when prize money was in sight, McFarland, with Kramer securely tacked to his rear wheel, would gain the place of vantage, and while on the other occasions he sat up, when the real sprint began on the last lap he reversed positions with Kramer and followed him home. Hadfield, who rode a well judged race, was lapped on McFarland's wheel, and John Bedell beat Collett a length for fourth place; time, 58:45 4-5. Three of the four intermediate prizes offered for the leaders at five, ten, fifteen and twenty miles also went to the credit of Kramer and McFarland, Sullivan winning the lap prizes, with twenty to his credit.

Billington and Glasson were the amateur stars. Billington captured the quarter mile open, flying start. Six qualified in as many heats, and an even half dozen lined up for the final. They were all away in a bunch, Garrabrant taking the lead at the first turn; Schlee and Glasson were well up, with Wiley bringing up the rear. Billington started his sprint at the eighth pole, and Glasson and Schlee followed. Wiley, too,

made his run, and the race was a struggle to the tape, Billington winning by inches; time, 31 seconds. Schlee just nipped Glasson on the tape, and Wiley was only a half length back, fourth. Eighteen amateurs lined up for the two mile handicap. Glasson, riding from the 60-yard mark, was the winner. He went after the leaders as soon as the start was made, and was in the first division on the sixth lap. In the run home he was first by half a wheel. Goerke finished second, and Journey was third, a length in front of Kohn, fourth. Time, 4:17 1-5. Lap prize won by Ivy, 150 yards. Goerke had 150 yards, Journey 150 yards and Kohn 150 yards.

Walthour defeated Butler in two straight heats of a motor paced race at the Atlanta Coliseum on May 15 before a crowd of 6,000 persons. The race was replete with exciting features, and Butler was loudly cheered for his plucky riding. He could not follow his pace at the hot clip set on so sharp a track, and was switched from his motor several times, though he did not stop for a second. Walthour was thrown in the first mile of the first heat, and had a long slide across the track. He was not hurt, and as soon as the puncture which caused him to fall was repaired he went back on the track and won the first heat, which was three miles, in 4:47. two laps to the good. The second heat was for ten miles, and great difficulty was experienced in getting the riders even for the start. The men had to go more than a mile in getting started. When the pistol was fired Walthour struck out like a streak, and was soon trailing Butler, who picked up in the third mile and was leading slightly. In this mile he lost his pace, and Walthour passed him. On the eighth lap of the sixth mile Butler again lost his pace, and Burroughs signalled for a stop. The gasoline in the motor was exhausted, and he could not go on. He replenished it and the race was started again where it was stopped. Butler was switched from his pace several times, and was not able to negotiate the turns fast enough to win. Walthour won by a lead of six laps in 17:27.

At the opening of the New Haven Coliseum, May 20, Kramer defeated Collett in

the half mile professional in a fighting finish. Collett was second, Jacobson third, and Rutz fourth. Time, 1:03 2-5. In the quarter mile amateur race Billington won; Canfield second, and Webster third; time, 0:32. The two mile professional handicap was won by Collett (25 yards); Caldwell (180 yards), second; Hadfield (5 yards), third; Armbruster (180 yards), fourth; time, 4:14. Canfield, with 120 yards, won the one mile amateur handicap; Russell (85 yards), second; Perkins (35 yards), third; Shuman (140 yards), fourth; time, 2:01.

The Metropole Cycling Club is booked to open the metropolitan racing season at Manhattan Beach on June 21 on a gigantic and unusual scale. Practically every crack of prominence will appear, by special sanction, the prizes will be out of the common, and, most unusual of all, no admission fee will be charged. Admission will be by invitation only, and if a record breaking crowd does not result plans will greatly miscarry.

"Major" Taylor won his first race this season at the Buffalo Velodrome, Paris, May 10. He defeated Rutt and Jenkins in the final of a 1,000 metre (five-eighths of a mile) race. Cables from Berlin state that he was beaten there on May 19 by Arend, and on the following day failed to even get into the finals.

Iver Lawson made his first appearance in Paris on May 8. He met Jacquelin, the French champion, in a match race and was easily defeated, having had no time to get himself round into anything like form.

Some one has proposed that racing programmes have one of the events headed "Manana." The governing rule in the race shall be that all who ride can loaf without penalty.

C. V. Rogers, on a Mitchell, broke the five mile British motorcycle record at Blackheath on May 3. The time now stands at 9m. 3 4-5sec., one minute less than the previous best.

In the Paris-Marseilles road race on May 19 Lesna won, covering the 535 miles in 39 hours 3 minutes 9 seconds.

CINCH

COASTS FREELY ON BEARINGS.

GROUND AFTER HARDENING.

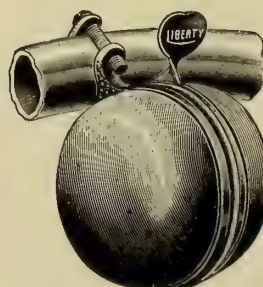
Brakes Metal to Metal.

Drives Without Friction.

RIGGS-SPENCER CO., Manufacturers, Rochester, N. Y.

"LIBERTY" CHIMES

BICYCLE and MOTOR CYCLE BELLS.



Original in
Design.

Practical in
Construction.
Superb in Finish.

In a word their general excellence
has made them pre-eminent everywhere.

For Sale by all the Leading Jobbers.

Used by all Discriminating Purchasers.

LIBERTY BELL COMPANY, Bristol, Conn.

ALUMINUM BICYCLES

Yet Made in England—Theories Advanced for Their Easy Riding Qualities.

Some of the older readers of the Bicycling World will readily call to mind an aluminum bicycle that was made in St. Louis some six or seven years ago. It will probably be a surprise to them, however, to learn that practically this same machine has been made right along by one of the largest English manufacturers and that it has been regularly listed from year to year in their catalogue. It has come in for notice now and then in the journals of that country, and one of the latest presents some rather novel ideas as to the value of aluminium for bicycle frames in giving smoother riding, owing to the open grain of the material. On this subject a contributor to an English exchange has the following to say:

"I have of late been using a Humber bicycle built up with an alloy of luminum known as Wolframium, chiefly with the idea of observing the quality of the frame as an absorbent of shocks. Of course, the use of various alloys of aluminum is not new, but it is interesting to investigate the behavior of the frame in this new pattern, as it is an unusual way of arriving at featherweight results.

"The Humber I have in use weights just under 26½ pounds, and not one ounce has been taken out of any of the wearing parts of the machine. The bearings are of the same dimensions as on the full roadster. That no doubt accounts for the machine's smooth running and free spinning, and there is, moreover, no attenuation of the mudguards or cutting away of the brake fittings to a vanishing point.

"Not a vestige of justification could be found about this machine for the contemptuous phrase of a friend concerning featherweights in general as "skimpy skeletons for would-be scorchers." Now the saving of 1¼ pounds in the frame by the use of Wolframium has not been ventured on without much careful testing. Weight for weight, Mr. J. W. Adams, the Humber manager at Beeston, tells me the strength of the tubes used is considerably greater than that of weldless drawn steel tubes. If that fact is not easily credited, there are practical reasons for believing the frame to be capable of more than average requirements, as a well known tradesman, who scales something approaching 224 pounds, confidently rides a similar cycle.

"Mr. Adams, in directing my attention to the frame, which, by the way, is finished black, and presents none of the garish appearance usually associated with aluminum frames, says he is quite convinced that there is a smoother feeling on an aluminum than on a light steel frame. I can indorse this view by expressing the opinion that this

featherweight is certainly quite free from harshness. The tube is of stouter gauge than a steel tube for the same purpose, and the greater quantity of more open grained material, it is suggested, may be absorbent of vibration to some appreciable extent.

"It is quite likely there is some truth in this explanation. Aluminum is a puttyfied sort of metal. It would not ring clearly when struck. It would be poor stuff for a tuning fork. But a tuning fork is wanted to vibrate, a cycle tube may well be made (other things being equal) of an absorbent, non-thrilling material. Whether this be a true explanation I cannot determine. It seems fairly plausible, but the fact exists that the frame is not harsh, but easy, and yet not whippy, for I find that it responds stiffly to the hardest pressures I can exert, which, though not Hurculean, suffice to take me up a 13 per cent gradient."

As an Aid to Temperance.

A noted Australian expert in sanitation, Sir Thomas N. Fitzgerald, in a recent address, declared that the bicycle had done more to elevate the masses in the matter of temperance than all the lectures that had ever been delivered.

There are few riders who will not admit the accuracy of this finding. It used to be an axiom that excessive drinking and cycling could not go together; and in spite of a few exceptions this is true in the main. Not only was the temptation to drink greatly lessened, but the fear of the results acted as a deterrent in many cases. The idea of a drunken man on a bicycle had in it something mournful as well as mirth provoking.

A clear head as well as a strong, healthy body is needed by the cyclist.

Intemperance has very little to work on in the case of such a man, one of exercise, vigor, rich, red blood and tough, springy muscles. He has found in healthful exercise the excitement that others may find, for a time, in the stimulation of alcohol. He has well passed away the hour of leisure that another may ill spend in the atmosphere of the tap room. He has wasted no money, but has increased his money making capacity. He has helped no other man into ways of folly, wastefulness and selfish indulgence, but has set an example of wisdom, frugality and self-helpfulness.

Sir Thomas is right about it. As a friend of temperance the bicycle is far ahead of the lecture. Not that good advice should not be given and heeded; but, as a rule, it isn't nearly as pleasant to receive as the bicycle treatment. Furthermore, experience teaches that it isn't as certain or permanent in its effects.

Fire in Corbin Foundry.

One of the brass foundry buildings of the P. & F. Corbin Mfg. Co., of New Britain, Conn., was burned last Saturday night. The loss, which is estimated at \$12,000, is covered by insurance.

ARE YOU GETTING YOUR SHARE OF THE SADDLE REPLACEMENTS ?

There's a lot of it going on. As we have said before, riders who took "any old saddle" that came with their bicycles have grown wise and are now seeking a saddle that will afford comfort and satisfaction.

...THE... PERSONS



is naturally claiming a large majority of them; it will claim more of them if dealers are alive to the situation. Usually the placing of a Persons side by side with any of the others is sufficient to make a sale.

Persons Mfg. Co.

C. A. PERSONS, PRES.,

WORCESTER, MASS.

The Week's Exports.

Only Germany, Great Britain and Denmark made any considerable purchases of cycle stuff last week; in the cases of the first two they approximated \$10,000 each, in the case of Denmark \$8,700. The record in detail for the week follows:

Antwerp—8 cases bicycles, \$215; 18 cases bicycle material, \$858.
 Arnheim—5 cases bicycles, \$65.
 Argentine Republic—8 cases bicycles, \$223.
 British Guiana—2 cases bicycle material, \$119.
 Brazil—1 case bicycle material, \$18.
 Bremen—1 case bicycles, \$100; 1 case bicycle material, \$44.
 British Australia—12 cases bicycle material, \$1,216.
 British West Indies—16 cases bicycles and material, \$318.
 British East Indies—2 cases bicycles and supplies, \$202.
 Bournemouth—2 cases bicycles, \$30.
 Cuba—8 cases bicycle material, \$474.
 Copenhagen—356 cases bicycles, \$7,078; 40 cases bicycle material, \$1,684.
 Christiania—2 cases bicycle material, \$20.
 Dutch Guiana—16 cases bicycles and material, \$240.
 Dublin—64 cases bicycles, \$960.
 Genoa—23 cases bicycle material, \$1,090.
 Glasgow—9 cases bicycles, \$225; 7 cases bicycle material, \$316.
 Havre—2 cases bicycles, \$150; 25 cases bicycle material, \$1,356.

Hamburg—350 cases bicycles, \$7,645; 87 cases bicycle material, \$2,382.
 Hango—1 case bicycle material, \$103.
 Helsingfors—27 cases bicycle material, \$765.
 Jacobstadt—5 cases bicycles, \$100.
 Japan—26 cases bicycles and material, \$774.
 Kallunborg—2 cases bicycles, \$75.
 Leeds—1 case bicycles, \$25.
 London—91 cases bicycles, \$3,791; 47 cases bicycle material, \$2,138.
 Liverpool—147 cases bicycles, \$1,765; 13 cases cases bicycle material, \$590.
 Lausanne—3 cases bicycles, \$347.
 New Zealand—44 cases bicycle material, \$1,949.
 Newfoundland—8 cases bicycles and material, \$106.
 Rotterdam—20 cases bicycles, \$450; 5 cases bicycle material, \$169.
 Stockholm—4 cases bicycle material, \$280.
 Southampton—82 cases bicycles, \$1,804; 5 cases bicycle material, \$1,483.
 Turin—122 cases bicycles, \$1,830.
 Uruguay—4 cases bicycle material, \$466.
 Wasa—8 cases bicycles, \$150.
 Wiborg—6 cases bicycles, \$110.

To Remove Grease.

An old fashioned cure for the accumulation of grease and dirt after an hour or two at cleaning a bicycle is to rub the hands over with butter until the grease comes off, then dry and wash in the ordinary soap and water.

The Retail Record.

Ottawa, Ont.—Bower, Ellacott & Co., slight fire damage.
 New Haven, Conn.—Setlow Bros. moved to Orange and Court streets.
 Turners Falls, Mass.—C. Degraft, fire; loss, \$300.
 Port Huron, Mich.—Charles F. Taylor, fire; loss, \$25,000; fully insured.
 Houlton, Me.—Almon H. Fogg Co., burned out; loss not given.
 Mineola, N. Y.—James Birch, moved to Main street.
 Haverstraw, N. Y.—T. Hennessey opened shop on Main street.

One of Germany's Advantages.

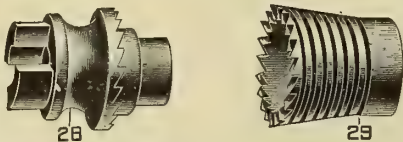
It is a little odd that of the four nations most aggressively reaching out, in one way or another, for foreign trade, Germany alone has established the international system of weights and measures. Russia has decided to do the same thing.

In America and England most of the argument, practical as well as theoretical, is in favor of adopting the metric system, and the change is prevented mainly by inertia. The consuls of both countries have testified that their foreign trade was injured by the non-adoption of that system, and in England a large amount of testimony favorable to the change has come from manufacturers and merchants.

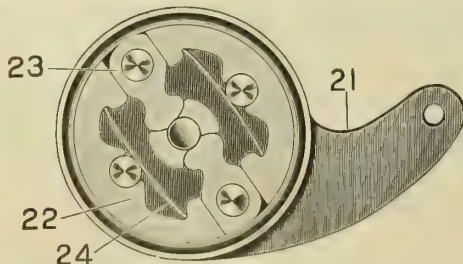
In Germany the change was effected quickly and with little trouble. Possibly the expansion of German foreign trade has been promoted by the change.

THE PATENTED IMPROVEMENTS —IN THE— Corbin Duplex New Departure COASTER BRAKE

Give the rider advantages he cannot get elsewhere. Here are two of them:

**BRAKING CLUTCH.**

When the rider back pedals, to apply the brake the teeth engage and **IT CANNOT SLIP.**

**BRAKING MECHANISM.**

When the brake is applied the two parallel-opening shoes are pressed against the inside of the drum; when released they spring back to place. **NEVER SQUEAK OR BIND.**

SEND FOR CATALOGUE.

P. & F. CORBIN, New Britain, Conn.

NEW YORK.

CHICAGO.

PHILADELPHIA.

For MOTOR BICYCLES

or for motorless ones there
is no bell quite like the

Mossberg TIRE CHIME

IT AFFORDS A
SHORT RING
or a
LONG RING

and its tone is so unmistakable that it leaves nothing to be guessed.

QUOTATIONS ON APPLICATION.

FRANK MOSSBERG CO., Attleboro, Mass.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, May 29, 1902.

No. 9

A. B. C. DROPS MORE HINTS

Mildly Draws Attention to Alleged Infringements and Suggests a Course of Action.

After a period of comparative quiet, the American Bicycle Co. is again dropping "gentle hints" anent certain patents which are in its possession.

One of these is the Jeffery patent of January 18, 1889, which covers the method of attachment of sprockets. The "hint" has been dropped in several places, and merely suggests that if the recipients agree that their methods of sprocket attachment are in violation of the patent they kindly communicate with A. B. C. headquarters.

The particular portion of the patent that is brought to bear is Claim 10, which is as follows:

"In combination with the pedal crank shaft, the pedal crank provided with a hub, by which it is secured to the shaft, and with arms for securing the power communicating wheel, such power communicating wheel having no hub, but having an opening about its centre large enough to permit the crank hub and its arms to pass through, whereby said power communicating wheel may be passed over the crank and its arms, and secured behind or within the same without detaching the crank from the shaft."

The A. B. C. "hint" also remarks that the patent has been successfully litigated. The litigation referred to is the suit of the Gormully & Jeffery Mfg. Co. vs. the Standard Cycle Co., of Chicago, which in 1898 was decided in favor of the complainants.

Collapse of a Big Case.

The attempt of the owners of the British rights to the Maybach float feed carburetter to make the trade and public pay tribute to them has come to a sudden and rather unexpected end. The contemplated appeal from the adverse decision of a lower court has been abandoned utterly and apparently irrevocably.

Although the suit in question was a purely British one, it is nevertheless interesting to the motor bicycle trade in this country. The Maybach patent is on a carburetter of the float feed type, its inventor, Maybach, being

in the employ of a prominent German motor vehicle concern. It is very broad in its claims, and if it were sustained would have cut a very big figure in the motor trade of that country. Its owner proceeded against British users, almost ignoring the trade, and demanded enormous royalties.

The trade united to fight the patent, and was successful in preventing the affirmation of its validity. This occurred about a year ago, and it was given out that an appeal from the decision would be taken. It is not announced authoritatively that this will not be done.

Robl Does 45 in the Hour.

Advices from Paris show that the hour record is made only to be broken on the Parc des Princes track. Linton's record of 42 miles 900 yards stood for hardly a week, when he made, on May 11, a new record of 44 miles 928 yards.

This record stood for just three days, as on May 14 Robl put behind him 45 miles 152 yards in the 60 minutes.

How long this will stand is problematical, as the "event of the hour," as the French so aptly put it, has come to be a fashion, and several more are scheduled on the same and rival tracks.

Receiver for Straus.

Justice Greenbaum, of the Supreme Court, last week appointed Job E. Hedges temporary receiver for the Straus Rubber and Tire Company, formerly in Nos. 351 and 353 East Sixty-first street, this city. Action was taken on the application of Herman Reimer, who recovered a judgment against the company on April 9 for \$1,394.

Rush for Motor Bicycles.

According to Bicycling News, "the motor cycle trade (in England) continues to grow by leaps and bounds, and has far exceeded its limited output; in Coventry the factories are working at frantic pressure to keep up with the demand."

Simonsen Comes to Buy.

Carl Simonsen, of the Skandaviens Storste Cycle-Magasin, Copenhagen, is due in this city at the end of the current week. He comes over on a cycle, parts and sundry purchasing trip.

CUSHION FRAMES IN COURT

Long Expected Litigation Finally Comes to a Head—Hygienic vs. Bretz.

After threatening for more than a year, proceedings for infringement of the patent on the cushion frame device have finally been instituted against the Bretz Cycle Mfg. Co., Syracuse, N. Y. The Hygienic Wheel Co., of Philadelphia, are, of course, the complainants in the case.

For a considerable time the Bretz people have employed a cushion device which, outwardly at least, resembles the Hygienic invention. It is no secret that the Hygienic company viewed it as an infringement of their rights and took prompt cognizance. Efforts looking toward a peaceable settlement were several times made, but the filing of the suit last week makes plain that they failed of effect, and that the issue is now joined in earnest.

Atkins, Temporary Manager.

A. L. Atkins has been appointed temporary manager of the Columbia factory at Hartford, the position having been made vacant by the resignation of J. M. Birmingham, who is now president of the Hartford Water Board. J. E. Bromley, president of the American Cycle Mfg. Co., is due in this city at the end of the week to attend a meeting of directors on Tuesday, and it is probable that a permanent head for the Hartford plant will be chosen at that time.

Its One Grain of Truth.

The printed report that Clement & Co., of Paris, were establishing a motorcycle plant in Hartford is as empty as it is far fetched. The only grain of truth it contains rests in the fact that the French firm has contracted to have some stamped parts manufactured in the Connecticut city.

Increased by \$50,000.

The Lilly & Stalnaker Hardware Co., Indianapolis, which handles bicycles also, has added \$50,000 to its capital stock.

Out of a total entry list of 83 in the French alcohol motor trials over the northern roads of that country, there were 9 motor bicycles and 8 motor tricycles.

APRIL LOSS, \$10,000

Exports Again Fall off in Europe Despite Substantial Gains Elsewhere.

Although the total for the ten months of the fiscal year ending with April is nearly \$200,000 to the better of the corresponding period of the previous year, April did not contribute to the result. By comparison with April, 1901, it fell short some \$10,000. Germany excepted, all Europe, including the United Kingdom, developed losses. But British North America, as usual, was responsible for the greatest shrinkage of an individual country.

The decreases mentioned were partly offset by substantial gains in Japan, Africa and Australia, the shipments to Japan being of long-expected proportions. There were increases also in the West Indies and China, but they were not sufficient to offset the minor losses in South America, the East Indies and Asia.

The record in detail follows:

Exported to—	April—		Ten months ending April—		
	1901. Values.	1902. Values.	1900. Values.	1901. Values.	1902. Values.
United Kingdom.....	\$66,025	\$53,486	\$368,582	\$319,539	\$353,638
France	30,073	26,458	206,112	126,874	182,079
Germany	29,117	35,568	358,161	143,069	266,076
Other Europe	75,693	74,672	586,118	379,271	507,613
British North America.....	56,617	28,638	265,893	230,342	127,114
Central American States and British Honduras	430	284	2,563	4,446	4,114
Mexico	2 244	2,091	21,128	16,813	17,685
Santo Domingo.....	108	76	272	445	793
Cuba	881	828	142,616	12,328	13,756
Porto Rico*.....			2,376		
Other West Indies and Bermuda.....	4,698	5,899	43,432	42,619	41,515
Argentina	324	30	139,453	23,663	7,895
Brazil	629	805	24,906	9,083	4,892
Colombia	145	41	6,213	544	957
Other South America.....	5,068	1,325	57,664	28,482	20,581
Chinese Empire.....	1,930	3,456	23,245	12,732	51,700
British East Indies.....	5,439	2,773	94,194	46,694	39,118
Hong Kong.....	694	304	6,998	8,043	3,858
Japan	28,134	46,206	189,309	182,850	167,567
British Australasia.....	16,222	24,187	210,113	172,554	175,182
Hawaii*.....			43,532		
Philippine Islands.....	3,563	666	20,109	65,738	15,692
Other Asia and Oceania.....	2,838	654	38,804	21,816	21,953
Africa	2,217	15,500	54,407	81,354	97,526
Other countries.....	36		181	255	117
Totals	\$333,125	\$323,947	\$2,906,381	\$1,929,556	\$2,121,421

*No longer included in statistics.

Linton had Motor Bicycle Pace.

Contrary to the general assumption that a motor tandem was the pacing machine used in the recent record breaking ride of Tom Linton at the Parc des Princes track, Paris, it turns out that the pacing machine was a motor bicycle. The marvellous work done by the single machine can be best appreciated when it is remembered that the record was 42 miles 900 yards in the hour. According to all accounts, the motor bicycle used proved the most speedy and reliable that has ever been seen on the path.

The old Ariel bicycle plant at Goshen, Ind., is being put into shape for a rubber factory.

Bicycles Beat Automobiles.

Official figures have just been received of this year's Dashwood Hill trials, held May 10, under the auspices of the Automobile Club of Great Britain. Of the twenty contestants in the hill climbing contest five were motor bicycles.

The trials were divided into three parts: A non-stop run of about thirty-three miles to the foot of the hill, seven successive ascents of the hill from which the averages were taken, and a return run to the starting point. In connection with each there was a consumption test, while on the hill the time was also taken.

The hill is 1,005 yards in length, with an average gradient of 1 in 14.3. The greater portion of the grade is 1 in 11, and 352 yards figure out at 1 in 10.9.

In spite of there being many high powered vehicles, the best performance on the hill was made by a 2¼ horsepower motor bicycle, which, starting from a standstill, as did all the contestants, averaged 19.55 miles per hour for the four miles of uphill work which the seven time climb figures out. The average time for the second bicycle, which also

FAME-SEEKING COPPERS

Their Arrests of Automobilists Recall Their Ambition to Nab Cycle Racers.

Some of New-York's bicycle policemen are "distinguishing" themselves these days by overhauling speeding automobiles, their estimates of the speed frequently being of an eye-opening nature. One of them who last week haled an alleged offender to the bar had his case thrown out of court because deduction proved that if his estimate of the automobile's speed was correct he must have of necessity broken all existing road records in overtaking it.

"It does not surprise me in the least," said one of New-York's best known wheelmen in discussing the arrest. "I'd be willing to wager that half the bicycle cops in the city are simply 'laying for' prominent automobilists and itching for a chance to run them in.

"It is exactly as it was in the day of cycling. At that time the cops had their eyes peeled for prominent racing men, and I know it to be absolute fact that several of the latter—Bald and Michael—were of the number, if I remember correctly—who were approached by certain bicycle policemen and asked to submit to arrest, the cops agreeing to pay the fines which, of course, would be imposed."

When doubt was expressed that a policeman would voluntarily pay for anything, a New York newspaper man, who was of the party, stated that to his knowledge also such suggestions had been made and in at least one instance, he thought, the racing man had permitted himself to be arrested.

"The cops simply crave newspaper mention," he added. "It is as good as food, and drink to them. They are full of the idea that the more prominent the person arrested and the faster his speed, the greater the showing and the greater the improvement of their personal records."

"Working" the Natives.

Every one knows that your peripatetic public entertainer always finds the town or country that he is in the "most charming" and the audiences the "most appreciative." It is supposed to swell box office receipts. It costs nothing—except the stretching of a point or two now and then, and to this no one can object—and makes the native feel good.

The scheme has been worked so much that of late it has fallen into disrepute, but that trick rider whose act of dropping off a platform into a tank of water seventy or eighty feet below, and who has been performing in London, has been working the English press. The trade journals of that country have bitten because it gives them another opportunity to indulge in their favorite pastime. According to one of them, "he came over from America, and he says, 'Although I brought a lot of American bicycles with me I have discarded them entirely in favor of English wheels.'"

WILL CROSS CONTINENT

MAYBE.

Drop a Dollar in the Hat and see Martin Start—"Banking House's" Great Scheme.

Some weeks since there left New York a young man on a motor bicycle. Although one of the sensational dailies at whose office he called stated the next day that the young man was bent on a record breaking trip to San Francisco, apparently only the paper in question knew of his intention or of his starting. Nothing more was heard of him until last week, when the *Bicycling World* received word that "a young fellow bound for 'Frisco with a motor bicycle" was "hung up" in Rochester, his bicycle being at some other point for repairs.

Whether or not it is the same young man, one James J. Martin, "who recently rode to Buffalo and back on a motorcycle," is shortly to undertake the cross continent jaunt, or at least so says a communication written on the engraved letterhead of the "banking house" of a firm whose name suggests O. Whata Pain & Co. Although noted as being dictated by the head of the banking house, a small, almost insignificant "S" follows the signature. Quite a few people in the trade have been favored with the communication. It is so interesting and so well tells the story of how some people would engineer cross-continent trips as to merit reproduction. Here it is:

"Finding that this trip (the alleged New York-Buffalo ride) resulted in considerable business for us, we have now arranged to send the same party on a motorcycle trip from New York to San Francisco and to make arrangements to share this trip with five or six other firms interested in the manufacture of parts used on motorcycle equipments. The cost of the trip to Buffalo averaged about \$7 per day, and according to the present arrangements the cost to each would be \$1 per day, as Mr. Miller has close connections with reporters on New York and other papers, and he will give exhibits in each town he visits, which will be the cheapest form of advertising, and our experience on the last trip was that the actual business received was profitable over interest paid.

"His idea is to have cards printed giving the names of the manufacturers of the motor, the frame, the wheels, the tires, the carburetter and batteries, the coil and sparking devices.

"Four parties have signified their willingness to join in the expenses of the trip.

"We also expect to arrange with the New York Herald, the New York Journal and one or two of the principal automobile and motorcycle magazines for an advertisement describing this trip and naming the manufacturers of the different parts used on the machine he selects. The reason we make this suggestion to you is in the belief that the article you manufacture is the best in your line, and one which we are likely to adopt

in the future in the manufacture of motorcycles. We believe that our plan of advertising is unique, and the division of the expenses connected with same should produce the largest possible returns from the investment for all concerned. Should you feel interested, we should be pleased to take up the matter with you and give you a list of those who will share in this advertisement, our idea being only to select the best article manufactured by most responsible concerns."

What Riggs Observed.

"From my observations on my trip to the Pacific Coast," says Frank C. Riggs, of the Riggs-Spencer Company, who last week returned from that edge of the country, "I should say that there is no doubt of the betterment of the trade. The renewed demand appears, however, to be unequally distributed. In two places I found no improvement of business, in others it was decidedly better than last year, while in several it was particularly marked. Our own business in Cinch coaster brakes has far exceeded our expectations. We have already delivered 50 per cent more than we expected to manufacture during the entire season."

Waterbury Repairers Organize.

Nearly if not all the leading dealers of Waterbury, Conn., have formed an association and have adopted a uniform price for all kinds of repairs.

The membership is as follows: F. P. McEvoy, E. H. Towle, John Myers, Charles W. Messer, James Lango, Hamel & Stone and the Brass City Cycle Works.

Coaster Brakes in Level Countries

The idea that coaster brakes are used and in favor only in rolling countries is not always borne out by fact.

"In New-Orleans," says a man from that Southern city, "there are quite a number in use, although the country for many miles in every direction is as level as a floor; a hill is a curiosity to the average inhabitant."

Blames the Women.

According to one who writes in a tone of authority, half the complaints against women's saddles are due to the women themselves. He avers that if they would but "judiciously rearrange the reach and the handle bar an accursed saddle would develop the acme of ease."

N. Y. A. C. Re-enters the Field.

Among the signs of renewed interest is the re-entry of the big New York Athletic Club into the racing game. They have got together an amateur team composed of Hurley, Billington and the Welsing brothers.

Judin in Canada.

Despite bad weather, J. F. Judin, who is riding from Racine, Wis., to Boston, Mass., on a Mitchell motor bicycle, is making good progress. He was in Detroit on Sunday, and is now nearing Buffalo, via the Canadian route.

BOSTON THE HOTBED

Motor Bicycles Only Being Sold Says Sherman—Even the Small Boy is Interested.

George Sherman, that is, George W. Sherman, is again in town. As on the occasion of his last visit, he came from Boston after having spent a term of weeks talking motor bicycles in that city and vicinity. His protracted converse has not, however, affected either his enthusiasm or his optimism; if anything he is fuller of his subject than ever, and reaffirms that Boston and thereabouts is the real hotbed of motorcycle interest.

"I tell you they have gone daft over motor bicycles in Boston," he said. "The dealers there are selling practically nothing else. No, I'm not putting it too strong. The agents in the suburban towns are selling the motorless bicycles, and selling aplenty of them. But in the city the call is for motor bicycles, and for practically nothing else. Nine out of ten people who visit the city stores are inquirers for motor bicycles. You may smile incredulously if you wish, but I tell you I know what I am talking about. If you doubt what I say, have some one make a tour of the Columbus avenue "cycle row," and if the result does not confirm my statements I'll eat my hat and yours, too. Take for example Fred Randall, the Indian agent on the "row." He has a branch store across the river in Chelsea. There he is selling motorless bicycles to 'beat the band.' In his Boston establishment I doubt if he sells one per week. Every one who calls there talks motor bicycles. He has orders and deposits on his books for more than fifty, and had he been able to promise deliveries on specified dates he would have orders for three times as many.

"Why, dammit," went on the strenuous and optimistic Sherman, "even the Boston youngsters have got the fever. Of course they can't get motor bicycles, but they are showing their interest in kid fashion. They take two rubber bands, and after tying a piece of stick about midway, stretch the bands from handlebar to front axle in such a way that the stick strikes the spokes. When the wheel is in motion the effect is mightily like the explosions in a motor. Some of them employ an even more realistic trick. They fasten a piece of tin to the rear fork stays in such a way that it strikes the spokes of the rear wheel. When a kid with a bicycle rigged in this fashion is riding behind you the noise produced is so like that of a motor bicycle that it is usually necessary to look twice to be sure that it is not one."

Will Coast out West.

Fired by the recent event held in this city, coasting contests are being promoted in Minneapolis, Minn., and Madison, Wis.; in the former place, a braking contest also probably will be included.



Confirmation strong as proofs of holy writ.

We get confirmation every day of the truth of our old saying, "A National Rider Never Changes His Mount." As one of our customers told us some time ago, "The trouble with a National is, it never wears out." The following letter is a good example:

NATIONAL CYCLE MFG. CO.,
BAY CITY, MICH.

DAYTON, OHIO, May 19, 1902.

GENTLEMEN:—No one can take more pleasure in saying a good word for the National Bicycle than myself, for in the five years that I have ridden one I have had less trouble and more pleasure than with any wheel that I have ever ridden, and I have ridden many makes. The cone I have just asked for is the first repair.

No one can go astray if he puts his faith in the National.

Very truly yours,

D. W. HYMAN.

FISSK TIRES Will Suit You Because—

They are durable.
They are resilient.
They are hard to puncture.
They are easy to repair.

IF YOU RIDE THE FISK YOU RUN NO RISK.

FISSK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON, 604 Atlantic Ave.	SPRINGFIELD, 40 Dwight St.	NEW YORK, 83 Chambers St.	PHILADELPHIA, 916 Arch St.	WASHINGTON, 427 10th St., N. W.
SYRACUSE, 423 So. Clinton St.	BUFFALO 28 W. Genesee St.	DETROIT, 252 Jefferson Ave.	CHICAGO, 54 State St.	SAN FRANCISCO, 114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00
Single Copies [Postage Paid] . . . 10 Cents
Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, MAY 29, 1902.

Women and Coaster Brakes.

Although it appeals or could be made to appeal to her with especial force, it is nevertheless a fact that the average woman cyclist is shy of the coaster-brake. The further statement may be made that the average wheelman who has women cyclists as near relatives is as doubtful about having them use the device.

The situation has been impressed on us by several recent discussions of the subject; that it is correctly stated is attested by the fact that the sight of a woman with a coaster-brake is the exception, and a very numerous exception.

It is not that either the man or the woman rider do not recognize the merits of the device or favor its use. Generally speaking, the reverse is true. However the woman may view it, "the man in the case" usually fears for her. With her timidity and nervousness in mind, he doubts her ability to mount and dismount readily, and to control a free gear in traffic or under stress of circumstances. Within the past week we know

of two men who, themselves favoring the coaster-brake, decided against their wives' use of it because of the considerations cited.

But such considerations should not be permitted to obtain. They are not without weight, but they can be removed, and it is "up to" the trade to remove them. In each of the two instances remarked the men concerned, while unwilling to equip their wives' wheels with coaster-brakes, were yet anxious to obtain the use of women's wheels so fitted and if need be to pay for their rental and such instruction as was necessary to remove their fears, or doubts, or whatever they may be termed.

Undoubtedly this attitude is more general than is suspected, and affords the trade its opportunity. It should suggest to the dealer who knows an opportunity when he sees one that there are money and new customers to be made by not only heralding the coaster-brake as "the thing" for women cyclists, but by offering instruction in the use or on the bicycles so equipped at a nominal figure or on "instruction fee returned" basis to those who become purchasers.

The delights of the coaster-brake—the coast, the rest, the comfort, the refreshment, the zest that follows its use—should be shared by womankind, and will be if dealers do what is manifestly their duty to do. All she needs is to be reassured and to obtain confidence in herself, and two or three lessons will "do the business" and make hundreds of customers for the dealers wise enough to make the instruction possible.

Two Object Lessons.

That the best way to meet a "bluff" is to "call it" instantaneously was demonstrated anew by the abrupt ending the other day of the legal campaign begun by the owners of the Maybach patent on carburettors of the float feed type.

Had there not been concerted action on the part of the British trade, through an organization one of the objects of which was to fight this suit, it is probable that a contrary result would have been reached. Attacked singly users of this type of mixing device would have been at the mercy of their enemies. But combined, presenting a united front, they were able to win out without much trouble.

Much the same fate befell a "bluff" of almost exactly the same kind that was "put up" in this country a year or two ago.

We refer to the once celebrated Calkins suits, directed against users of cycle racks. The fact that there were tens of thousands

of such racks in use was taken advantage of, and a systematic prosecution of alleged claims against their users was inaugurated. A sham verdict upholding the patents on these racks was made the basis for the suits.

The campaign, with its ever-widening circle of operations attracted a great deal of attention. At one time it looked as if it might succeed, but the exorbitant royalties demanded defeated the object sought.

As long as the suits were not seriously contested the campaign thrived amazingly. But when the suitor was finally brought face to face with the knowledge that he must fight for and win each stage of the game he weakened and ultimately quit.

In the short time that has elapsed since then the very name of Calkins has been forgotten.

He looked for an easy victory, an acknowledgment of his alleged rights and a speedy settlement of his claims. But when he found that none of these optimistic beliefs were supported by facts he quickly hauled down his flag and left the field to the victors.

Too Previous Damnation.

If there is one thing more than another that the agent should take to heart in connection with the motor bicycle, it is that not always is it "up to" the manufacturer just because a machine refuses to go either when received or at some time later on.

They should remember that not a recognized manufacturer delivers machines until after they have been given a road test. And, further than this, that with the capital at stake, the makers would not ship machines after this test if everything was not as it should be. Most makers are generous on this score in their treating with agents, but this should not burden them with making right matters that are obviously the work of the agent or his customer.

A case in point recently was brought to our notice.

A dealer in a nearby town was called upon with no special object in view, and he was found damning the maker of his motor bicycle because it had run for months in the best of manner, but had suddenly developed a tendency to go lame.

The remark was ventured that the trouble was from some trivial thing, and he was asked if he had looked over the machine. He defended himself, perhaps naturally enough, by saying he had, but how much effort he had used will be noted in the sequel. Asked if he had looked through the

book of instructions which came with the machine, the careless information was given that he had not bothered to keep the book.

The condition hardly warranted any labor in helping him out of his predicament, and the only reason for making any effort in the matter was the desire to save the manufacturer from some annoyance. As for thinking that the occasion would help to point a moral to adorn a tale, no such wild thought was indulged in, the manner seemed too hopeless for anything in that line.

A few minutes time and application located the trouble in a loose battery wire. The going and stopping had been due to this wire's jarring to and from its binding post whenever the machine was being ridden. If anything could add to the criticism in the matter, it is that the instruction book—which had not been bothered with—mentioned this possibility and described the symptoms that would indicate it.

Tires For Renewal.

Tires are easily the most sought after articles at the present time.

The average cyclist no longer buys a machine each year; he holds on to the old one until it gets so out of date and disreputable looking that he is ashamed to ride it another season. This does not usually happen for a number of years, and in the mean time the tires go down hill very rapidly, and finally become quite useless.

Again, a machine is put aside and neglected for a year or two. Some fine day the owner feels remorse for his act of neglect, or the desire to ride again comes over him, and he gets out the old "crock" and examines it critically to see what it needs before he starts to ride it. As in the other case, he usually finds that the tires are the weak point, and that they, more than anything else, demand attention at once.

It then becomes necessary to invest in new tires if riding is to be resumed. Frequently the former alternative is distasteful, for the rider of to-day looks much more carefully after his expenditures of this kind than he formerly did.

But this year he is rising to the occasion nobly and buying tires as he has not done for a long time. The desire to ride is strong, the example of others adds fuel to the flame, and in hundreds of cases the question, "To buy or not to buy?" is being answered in the affirmative.

Hence the demand for renewal tires is much larger than it has been for a long time.

Cooling Hot Weather Argument.

With the arrival of really warm weather the coaster-brake opens another avenue of profitable endeavor of which the makers, to say nothing of dealers, have made little or nothing in the past.

We refer to the heralding of the coaster-brake as a means of reducing the discomforts—or perhaps it is better to say, of increasing the pleasure—of cycling during the summer months. Although clearly a device that makes for that end, it is rare that the string is harped on.

It is not so much the heat as it is physical effort that causes perspiration and discomfort, and that which reduces the exertion is manifestly a contribution to comfort. If in a ride of fifty miles one is able to coast ten, twelve or fifteen miles, it is not alone that much added comfort, but is rest and perforce refreshment as well; indeed, it is more than this: every mile or half mile or quarter mile coasted is equivalent to being fanned by a more or less cooling zephyr, and cooling zephyrs are what most persons seek during the months of June, July, August and September.

All cyclists know how cooling and refreshing is a coast down hill on a hot day. The rush through space without effort itself creates a breeze. If, then, the coaster-brake is urged on riders as a device that provides a cooling coast whenever and wherever the rider wills, such "hot weather argument" can scarce fail of effect, and should serve to hasten the not distant day when the coaster-brake will be in universal use.

The point seems so plain that no hammer should be necessary to drive it into those who will be as greatly benefited financially as the riders will be benefited physically.

The Uses of Rubber Tires.

The introduction of the use of rubber tires in any city is an innovation that should be encouraged by the rulers of that city, and that should be protected by stringent laws against the malicious or the careless. It would save a community thousands of dollars each year in street repairs if all vehicles were run on rubber tires. More than this, if the wheels of all vehicles were cushioned with rubber, life in town would be prolonged and the better worth living, for none except the victims know what nervous people suffer from the noisy vehicles that rattle over the stony streets.

In view of these facts it would seem that the city authorities should encourage the use of rubber tires. But they do not. In sections

of many cities, particularly in outlying districts, scraps of tin and sheet iron, hoops, broken bottles and similar articles fairly litter the streets, and these things are ruinous to rubber tires. Some cities have an ordinance prohibiting citizens from throwing such articles into the streets. These ordinances were passed in the interests of the bicycle riders, but too often they have become dead letters, whereas they should be rigidly enforced.

Take The Initiative.

It has always seemed to me a careless thing to let a customer go out of the shop with only the one thing he came to buy, or without a good try to sell him something else, says a tradesman. I have seen this happen so many times that I am sure it is uncommon for a dealer to think of selling anything beyond what is asked for.

It ought not to be, and I admit that there are exceptions. But there is such an opportunity to sell when the buyer is before you that I wonder that more advantage is not taken of it. Everybody has or could have in his store some novelty with good taking points, and it would be easy to introduce this to all who called, and from this to go to other things likely to make a sale.

By the use of tact in making inquiries or suggestions you can mightily please your customer by the attention you pay him. Even if nothing comes of it at the time, you have started him wanting a thing you offered, and he will come another day to buy it. Repeat this process on every possible occasion, and see what a business you may build up out of now unconsidered trifles.

The secretary of the Philadelphia Cycle Dealers' Association asks the Bicycling World to say a good word for the organization. Concurrent with the request, there is made public the programme of the Dealers' meet on Decoration Day; it includes a "ladies' race." As a trade organization that is really doing something, the Philadelphia association deserves good words, but there are some things it can well afford to leave undone. "Ladies' races" are of the number. They are offensive to good taste and public decency. There should be sufficient of that fine respect for womanhood in the Quaker City to render such events under respectable auspices impossible. The action of the Cycle Dealers' Association in promoting such an affair is regrettably indefensible. They cannot expect approbation when they stoop to such things.

TREMBLER TROUBLES

What Causes Them, Both Locally and Generally, and how to Stop Them.

Perhaps even more responsible for misfiring than the sparking plug is the contact spring, or trembler, as it is sometimes called, on many motors. This spring is usually mounted on some kind of an insulated block and held in place by a screw, and is a part of the sparking controller. This latter had its first form in a piece of vulcanite, but has later come to be a metal box with the connection from the coil to the contact spring more or less insulated. This box is mounted on an extension of the half speed shaft and held in position by the cam placed outside the inner face of the box, which makes and breaks the contact. In this construction the tendency of the rapidly revolving cam is to wear the thin bearing edge of the box. Care should therefore be taken to provide this box with guides to prevent the tendency to sideshake that will otherwise come from the above mentioned wear. Whatever means are used, care should be exercised by the user to see that neither these guides nor the cam are set so tight they prevent the free movement of the controller, back and forth, by means of the operating rod.

Very often it will be found that there is considerable lateral play of the controller, which greatly interferes with the even action of the contact spring blade. It would be a decided improvement on some machines if the controller was mounted on a bearing capable of accurate lateral adjustment. Frequently it has been found that aggravated cases of misfiring have been entirely due to a loose mounting of the controller on the sleeve of the exhaust cam gear cover, or other part on which it may be carried in various patterns of motors.

In many instances it will be found that it is held in place by a washer merely secured to a couple of light studs which pass through slots in the controller cut at an equal radius in order to allow correct movement, for low or high spark, and as the washer is only held in place by split pins it follows that side play may easily occur.

Where the controller base is of vulcanite or other insulating material, such as pressed fibre, its outer face is bored to receive two brass studs which are set in, but do not pass completely through to the back. The top edge is also bored by two holes which meet the two cross holes. Brass studs are set in the first two holes, and into these studs are screwed, through the two edge holes, two binding post studs. These posts are provided with set screws by which are attached the wires from the primary winding of the coil.

The outer of the two face studs has a flat on its under side to which is faced the trembler blade, which is held in place by a small screw. The inner face stud is split

longitudinally, and at right angles with this split, and passing through it, is the platinum tipped contact screw. This permits adjustment for the platinum point in relation to the platinum block on the trembler blade. The contact screw is held in any adjusted position by a set screw which has a tendency to close the longitudinal split in the stud.

The trembler has a thickened end or block which bears on the cam mounted on the half speed shaft. In the De Dion type this cam has a notch into which the block drops and allows the blade and screw to come in contact. The break is made by the quick lifting of the block out of the notch. In other types the cam has a raised point which forces the blade up into contact with the screw. This point has a quick drop off for the break of the circuit.

In the De Dion type the theory has always been that the notch permitted a free vibration of the blade against the contact screw, and that on the frequency and rapidity of these vibrations depended in a great measure the quality of the spark and the even sparking of the compressed gas in the motor.

Of late this theory has not been as fully accepted as it previously has been for several years, many qualified constructors maintaining that, based on tuning fork experiments, the time allowed the block, on the end of the blade, in the notch at the speed of the motor would not be enough for the multiplied vibrations which its advocate claimed for it. Those who hung out for the repeated vibrations were prone to support their contention by snapping the trembler blade with the finger, proving that it buzzed as does the trembler on a coil. This did not prove anything as the factor of time, the real point in contention was not taken into account.

The other method, of forcing the trembler against the screw has been largely adopted in form with many slight changes in detail. It had its first use, not because its maker had worked out a conclusion adverse to the above theory, but because the above method was patented and well protected against infringement. To get around this "lifting," the "dropping" of the blade was the obvious method, and was followed by a number all about the same time. It gives satisfaction to those who use it, and while the first method has many warm advocates who believe in nothing else, this touch and away method is used by the greater number, and has its equally warm supporters.

Whichever style is used it should always be remembered that the proper adjustment is highly important, and this can only be learned by study and experience. In the adjustment of either, the trembler must be firmly held by the screw, and the blade, the screw and the stud should be kept absolutely free from oil. The same applies to the contact screw, to its post and to the locking screw.

The platinum lump on the trembler should be carefully cleaned with very fine emery

cloth, and, if it be found to have worn uneven, it should be filed true with a very fine file, subsequently being smoothed with the emery cloth and finally burnished with some blunt instrument.

Similar treatment should be applied to the platinum point of the screw, but in both cases as little of the platinum as possible should be removed, because the metal is very costly. The two faces of the platinum should be perfectly true with each other.

When the trembler is securely fixed to the stud, the cam of the notched type should be turned so that the block on the end of the trembler will drop into the notch. On no account should this block touch the bottom of the notch in the same, and if it be found to do so the trembler should be slightly set close to its post in order to bring the block into the proper position. On the other hand, the trembler must be set so that the block falls well into the notch of the cam. This fall is to give the vibrations aimed at.

When the trembler is in the correct position, the binding screw must be screwed through its stud until its point very nearly touches the lump of platinum on the trembler. The vibrations of the spring will then make and break the circuit—the spring can be tested to a certain extent by raising the block until it is at the same distance from the half-speed shaft that it would be when resting on the periphery of the ignition cam, and letting it go suddenly, when the spring should vibrate against the screw and a series of sparks pass between the points of the sparking plug.

This latter may be taken out and laid on the motor, care being taken that the end to which the high tension wire is attached is not touching the frame or placed very close to it, as, in the event of either of these events occurring, short circuiting of the secondary current will result and no sparks will be generated.

The adjustment of the spring cam can also be tested without removing the sparking plug by disconnecting the high tension wire from the plug and holding the end of the wire about $\frac{1}{4}$ in. from any part of the motor, being careful to grasp the wire by the insulating cover, and causing the trembler to vibrate with the finger as described. A flaming and cracking spark will pass between the end of the wire and the motor, if the trembler and contact screw be properly adjusted.

When the ignition cam is of the type which lifts the trembler the same general directions apply. Specifically the contact screw should be adjusted so that the blade is brought into positive contact, but must not be set so far into its stud that there will be a lag in the break. In some instances this quick break cannot be gotten, no matter how much or how careful the adjustment is made. This is usually due to the shape of the "hump" on the cam. The drop off side of the "hump" is too gradual in its slope away from the crown. If this is the cause that gives trouble it can be remedied by grinding it away toward the base. In this grinding

care should be exercised to see that the bulk of the grinding is done toward the circular periphery of the cam and that the top or crown of the "hump" is not cut away.

Making and breaking the contact by moving the trembler with the finger is all right to discover whether or not the primary circuit is complete, but, as before pointed out, it has no value in determining the exact character of the spark at the plug. This latter came only be found by the actual conditions of turning over the engine—and this turning over must be done at as near the speed of actual riding—slow—as is possible. In manipulating the trembler by hand there is the value that current is assured, and with a little practice the amount of current can be well judged. If the platinum contacts are clean, and there is considerable fire to the primary spark that will be seen, then the indications are that the battery is in good condition.

It does not always follow, however, that because there is a weak primary spark that the battery is low. If the points have been cleaned and the primary spark is weak, it may be that the platinum on the end of the screw has been "cleaned" away, or that the platinum on the blade has become hollow at its centre. In the first instance the brass screw is touching, and a few contacts soon oxidizes it to prevent a flow of the current. If the second case is the ruling cause, it will be better to take the blade off its post and raise the centre of the platinum by punching it from the back, or under side. Filing the edge of the hollowed platinum is expensive.

No oil should be allowed to reach the commutator, but the merest suspicion on the periphery of the ignition cam is useful in reducing wear and friction upon the block of the trembler. This very minute quantity of lubricant is best applied with the finger, and should be very sparingly renewed.

The cover which fits over the controller should be well secured in place and always used, because it will keep dust from the trembler and contact screw. Dust it must be remembered is nearly as bad as oil for causing short-circuiting troubles and misfiring.

Of course, in testing the adjustment of the trembler it is necessary to see that all the electric connections are in place and the current switched on.

Bradford's Originality.

One of the minor catalogues that embodies more originality—both in illustration and letterpress—than is usual is that of T. C. Bradford, Wilmington, Del. It really must be seen to be appreciated. The picture of the "Bradford House of Representatives"—Mr. Bradford and his employees—is well calculated to raise one's eyelids. Mr. Bradford even dips into poetry, thus:

Oh cycles! where hast thou been?

Buried for the winter, I am sure this is sin;
For the pleasures of life are within your fold.
Winter does bury them, but sweet spring
thems unfold.

To his verse he appends his surname,
"Taliaferro C. Bradford."

CONVERTING BICYCLES

Glib Talk of the one Who Does the Dangerous (to the Other Fellows) Work.

The bare suggestion of applying motors to the ordinary bicycle has been so thoroughly and roundly condemned, and the danger and criminality of putting the suggestion into practice so plainly pointed out, that it was not supposed that at this day there remained any one who would advocate it and openly reach out for business of the sort.

This impression was, however, given quite a check this week by the publication in a New York paper of an advertisement offering to convert motorless bicycles into motor ones at \$150.

With a view toward finding out what the advertisers had to say on the subject of possible breaking down and how they could defend their advocacy, a *Bicycling World* representative called at the address on Barclay street given in the advertisement.

Some little difficulty was at first experienced in finding those sought for, as they gave no name in their advertisement. Inquiry of two or three people in the store finally led to being directed to a desk in one corner, back of which were a few electrical parts on a shelf. The proprietors proved to be a couple of youngsters, whose card showed them to be in the electrical construction line. One of them could only speak German; therefore the reporter was handled by the other, a youngster who was just getting the first down on his upper lip.

Showing the advertisement to the youth, he was asked: "Would you recommend my putting an outfit on my machine? Won't it break the bicycle?"

"Not if you have got a good make. What machine have you?"

Two well known bicycles were named in reply.

"Oh, either of those will be all right. Why, I just took a cheap \$15 machine and fitted it up, and it's all right. I ride all over the rough cobble pavements of Brooklyn, and there isn't a line showing at any of the joints."

"How about the fork crown? Don't that need strengthening?" asked the *Bicycling World* man, with visions of a header in mind.

"I should say not. Any good crown is all right. Mine hasn't shown any giving way yet."

"You speak of your machine. Let me look at it; perhaps it will help me to decide matters. I feel a little bit uncertain about trusting myself. It doesn't seem possible that a machine not made for it can stand the work of the motor. The regular motor bicycles I have looked at are all made of heavier tubing, and so forth, all through."

"You needn't feel doubtful on that point. When the makers started they made their machines heavier because they thought they

had to. They are making them lighter now." Here was a choice lot of information that will undoubtedly be interesting to those most interested.

Calling attention to the fact that the request for a look at the \$15 machine which had been fitted had not been met, the salesman stated that the machine was over in Brooklyn, but that that need not make any difference, as they would assure the inquirer that his machine would be all right to equip.

"If I have my machine fitted by you," remarked the *Bicycling World* man, "it will be entirely on your assertion, and I shall have to look to you for a guarantee that my machine will stand it."

"Oh, that is all right; we'll guarantee you on that score," was given back as readily as if the thing was as sure as a government bond.

It was pointed out that seemingly risks were being taken on their part, but not in the least did this affect the youth. The absolute indifference to possible results was so staggering that for the moment the matter was sidetracked to inquire about the price.

"We will fit up your machine for \$150, with everything complete."

"But I can buy a motor bicycle of the same general lines as my fitted up machine would be, for \$150, with the maker's guarantee back of it."

"I'll bet you \$10 you can't, unless you are a dealer," was the convincing way in which the query was met.

"If you will bet the price of a machine I'll go you, but it's a cinch bet, and you will lose, as they are advertised at that price."

"Well, if that is so I never heard of it, and I am in the business at that." This latter in spite of the fact that only a mythical machine was to be learned of, the machine in Brooklyn.

"Well, if you are not better posted in prices I don't know about trusting my neck to your other information about the safety of the combination you are offering." And with a glance at the lonesome desk and the few electrical parts that would total about \$100 in value, the reporter became anxious to get back to the subject of the guarantee against breakdown, and putting the direct question, "What guarantee can you give that your guarantee will be good in case of personal injury?" he was given the assurance that the \$15 bicycle proved the case, which ought to satisfy any one, and they didn't need to guarantee more.

Stunned by the serene indifference to the risks that those in charge displayed, the reporter moved toward the door and was halted for a moment to be informed that they would see about those prices.

Fenn's Big Gear.

W. S. Fenn, who this year is following pace as a middle distance rider, is using 140 gear, the highest ever used on the track, it is believed.

TURNER ON LONG CRANKS

**Important Factors Overlooked, he Says—
His Ideas of Lengths and Their Benefits.**

I have watched with great interest during the last six months the annual controversy which has raged around long cranks and high gears, and considered the scientific and mechanical elements on which the benefit or the reverse of this new departure depends, says Dr. E. B. Turner, the eminent English authority. But, so far as I have noticed, no one has treated of that part of the subject at all. No sane person, with the exception, perhaps, of a few inventors, ever believed that more can be got out of a machine than is put into it, but there are different ways of putting the power in. It stands to reason that if two machines be of equal weight, and run equally easily, and one is geared to 80 with an 8-inch crank and one to 60 with a 6-inch crank, that it will require exactly the same power to drive either of them a mile in five minutes, and that the feet of the rider in either case will travel the same distance in his pedal path.

Suppose that a man can strike a blow with a force of impact of 100 pounds. If the same man have his wrist attached to his shoulder by a rubber cord requiring a force of 20 pounds to extend it, he will only, under those circumstances, be able to strike a blow of 80 pounds, and the difference between 100 pounds and 80 pounds will be the loss of power which depends on the unfavorable conditions under which the power is exercised. It is a matter which has been demonstrated frequently that if the knee be bent to an angle of about 84 degrees it is possible to exert considerably more force than if it be flexed to an angle exceeding a right angle.

This fact was known by rule of thumb to the riders of old solid-tired machines in the days of dirt tracks, when a racing cycle took much more driving than it does now. The racing position at that time was with the saddle back and the reach short, the result being that the knee was bent to less than a right angle, and the rider, without knowing the reason, was able to make the very best use of his strength and power.

I got down the other day my old tricycle, on which I used to race and ride against time twelve years ago, and I found that my position on it was exactly the same as the position I now take on a safety with a crank of 8 inches. My knee was bent to an angle of 84 degrees 30 minutes, and this position was the result of many hours' experiment on the track. The advent of the pneumatic tire and the cement racing path modified this position. Machines under these favorable circumstances ran so easily that there was not so much necessity for driving power as for quick, light pedalling, and consequently the racing man gradually, without knowing the reason, came further forward and used a longer reach.

A position which insures a knee flexed to an angle of less than 90 degrees is, of course, equally advantageous in allowing the rider to do himself full justice, whether his cranks be long or short, but the great majority of riders with short cranks, copying the present racing position, do not adopt it, and therefore on the road exercise their power, with disadvantage to themselves. If the crank be lengthened to 8 or 9 inches it becomes necessary that in getting over the top dead centre the knee be flexed to less than a right angle, and therefore the first users of long cranks found that they could drive a higher proportionate gear with less exertion than they could when using short ones. In the experiments I carried out some years ago I found that with an 8-inch crank and 84-inch gear I could drive a heavier machine at a greater speed over a definite distance



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

than I could when using 6¼-inch cranks and 62½-inch gear, and the reason for this is probably to be explained by the facts stated above.

Some riders who gave long cranks a more complete trial than the majority of those who have condemned them lengthened their cranks without proportionately raising their gear. This, of course, was wrong. I had the figures of one gentleman who, during a season, very thoroughly tested long cranks, submitted to me, and he found that he was able on returning to shorter cranks to cover 50 miles in a road race in less time than he had done the previous year with long ones. As a matter of fact, his slower long-crank performances were considerably better than the faster ones with short cranks, because when he rode with 6½ or 7 inch crank his proportion of crank length to gearing was, if I remember rightly, about 1 to 12½ or 13. When he used the long cranks he did not sufficiently raise his gear, but used a proportion of about 1 to 11. The result of this, of course, was simply to gear his machine several inches lower than when the cranks were short, and I calculated at the time I saw the figures how much further his feet must have travelled in driving the ma-

chine 50 miles with the long cranks and low gear than with the short cranks and high gear, and I found that it was considerably over a mile. Had he increased the proportion of gear to crank he would probably have done a much faster time with the long ones, because it was evident he was better suited by a high gear.

Another error which I have seen very frequently insisted on is that a man to be suited by 8 or 9 inch cranks must be tall and have long leg bones. This is certainly a fallacy. The men who are suited by long cranks are those who have small thigh and calf muscles acting upon long levers, and who are therefore better suited by a slow pedalling action. It is quite possible that a very tall man with large calf and thigh muscles and short levers would be much better suited by short cranks, because he would prefer a quick action in pedalling, and if he sat in a proper position and exerted his power to the full he would do better than if he had the longer and slower stroke of the man with the less power acting through the longer lever. One man who has improved very considerably by using 8-inch cranks and 86 gear is only 5 feet 2 inches in height, but he has the longest heel bones of almost any one I know.

With regard to hill climbing, I found myself that with a 9-inch crank and 96-inch gear, and a machine weighing, with brake and mud guards, 43 pounds, I could ride fairly easy up hills which I could not surmount on a machine weighing, stripped, 32 pounds, with 6¼-inch cranks and 62½-inch gear, although the latter machine is the best I ever possessed. I account for this by the fact that in climbing a hill a mile long, with a gear of 96 inches, there are very many fewer dead centres to be overcome, and at the same time the flexion of the knee to the most favorable angle gave me a chance of exerting my power to the best advantage.

It has been urged that there are no records standing to the credit of a machine with long cranks. For my part, I put the records to the credit of the man and not of the machine. If you can secure a good enough man he can make records on anything which can be ridden—a fact that was plainly demonstrated in the early days of long-distance path racing. The mile championship of the N. C. U. has been won on a machine with 8-inch cranks. This race is practically a 300-yard sprint, and if a man in that race can beat all the best sprinters brought together against him on such a bicycle it stands to reason that any records which may be required can be obtained on a machine of that pattern, provided only that the rider be good enough. Those who know much about racing will agree with me that a judicious expenditure of a few thousand pounds would transfer all the professional records, and as many of the amateur as the licensing committees might allow, to the credit of long cranks and high gear.

The increase of speed depending on the power of the rider being applied to the best advantage is by no means as great as that which is obtained by the substitution of an

RACING

air for a solid tire, and therefore the long crank and consequent change of standard pattern cannot take the trade by storm in the way which the pneumatic tire did. The speed of a bicycle over a mile has been increased by more than one minute by aid of the inflated tire. No long crank and proportionate gear can hope to do anything of the sort, but I know myself that I rode from Hounslow to Slough inside thirty minutes with a 9-inch crank and 96-inch geared machine, and a week later, on an equally favorable day, could not do better than 33½ minutes on my 6¼ and 62½ geared machine.

It will be found, I think, that by degrees the number of those who use the combination of 8 and 84 or 9 and 96 will gradually increase. It must appeal more to novices who have never learned the art of quick, light pedalling necessary on an ordinary than to experts who have to unlearn all they know to get a good result, and though there will never be such a revolution in cranks and gears as there was twelve years ago in tires, I am sure that the long crank has come to stay.

Parts That Go to Waste.

When the pneumatic tire came into general use and the process of "changing over" machines fitted with solid tires was at its height, repairmen were sometimes puzzled to know what to do with the old rims. The tires were, of course, sold for old rubber, and brought in a nice little sum.

But the rims were worthless. Even as old iron or steel they possessed practically no value, and it was a relief to get rid of them without incurring expense. Children used them for hoops for a while, but they soon tired of this, and other means of disposing of them had to be found.

It has been very much the same way with rear hubs or wheels. The fitting of coaster-brakes to machines already in use accounted for this. For at least a year an immense number of such changes were made, and since then the work has gone on, although very much less actively, and will do so for some time to come. Consequently a hub, and frequently a complete wheel, was left over after each such operation.

These parts were, as the event proved, quite worthless. No one who had a machine changed over ever had the work undone. He might think that the desire to do so would arise, but that feeling soon passed away, a better acquaintance with the new device setting at rest all doubts regarding it.

It is probable that there are thousands of unused rear hubs or wheels in existence even now, notwithstanding the fact that the bulk of them have long since been thrown away.

In many repair shops long rows of them are frequently to be seen, hung up out of the way and covered with dust.

They will never be taken down except to be destroyed. The good money that went into their construction is lost, and neither the hubs themselves nor the spokes and nipples are worth the trouble of dismantling.

Maya now sports the silken emblem of the Brassard championship of Charles River Park track, Boston. On May 24 he won from a field of three other riders, and in the hour covered 38 2-3 miles. MacLean did a little better than 37 miles, McConnell 37 miles and Keegan 34 miles. Champion, the holder of the Brassard, witnessed the contest from the grandstand. The race was a good one, but unfortunately an accident to MacLean in the ninth mile robbed it of its greatest competitive feature, as up to that time he had been trailing Maya, and it looked as though the fight for first place was between them. It was at the tape at the finish of the tenth mile that the rear tire on the motor tandem exploded. MacLean was without pace for a full lap, but he only lost three-quarters of a lap. As a result of the mishap McConnell got second position, 40 yards behind Maya. At the eighteenth mile MacLean had evened up with McConnell and secured second position. Maya was a lap to the good. At the twenty-five mile mark the riders were bunched for a time. It was a good fight for two laps, when Maya and MacLean pulled away from the others. Two miles further along MacLean tried to go by Maya, but failed. Another mile further on and MacLean went by Maya, and regained some of his lost distance. It was for a brief period, however, as Maya regained the lead. McCann and his mate then came out to assist MacLean. At the thirty-fourth mile he went by Maya, and then lost his pace. It was a gallant fight, but fruitless, for after that MacLean was all out, and Maya won as he pleased.

A crowd of 3,000 witnessed the opening races at the Coliseum, Baltimore, May 22. Leander easily defeated Fenn in a ten mile motor paced heat race, best two in three. The first heat was won by seven-eighths of a lap in 15:44 4-5, and the second by three-eighths of a lap in 15:42 3-5. Leander could easily have lapped Fenn in each heat. In the first heat Leander got away in the lead, and by the middle of the second mile was half a lap to the good. The first mile was made in 1:28 4-5 and the second in 1:27 4-5. Fenn got a little better of the start in the second heat, but was passed on the second lap by Leander. In the fourth mile Fenn made up a little lost ground, but soon fell back. In the sixth he made desperate efforts to get up. On the sixth lap of the ninth mile Leander, a lap to the good, caught Fenn, but had to drop behind, where he made sure of winning. Hunter on a motor bicycle rode an exhibition mile in 1:20 3-5.

Rain interfered with the racing at Vailsburg on May 25 and prevented the running of the finals. Before the rain came down Marcus Hurley, the amateur champion, who made his first appearance of the season, gave a whirlwindish performance that proves he has lost none of his speed. It was in the

half mile amateur handicap, and Hurley, of course, was on scratch in the last heat of this event. Just after the start was made rain began to fall. Unmindful of the slippery condition of the track, Hurley cut loose and went after the front markers in determined fashion; he overhauled them in the first lap, but without slackening his pace went on and won easily by ten lengths. His time was 59 1-5 seconds, but 1 1-5 seconds slower than the record, held by himself. Kramer won the fourth heat in the half mile open professional in 1:06. The programme will be completed on June 8.

The cycle racing season in Washington, D. C., was ushered in at the Coliseum Park track on May 21, when over 5,000 people witnessed the contests. The conditions were very favorable for the sport, except that the wind was rather high. The principal event was the ten mile heat race, motor paced, resulting as follows: First and second heats, won by Freeman, beating Fenn; times, 15:38 4-5 and 15:26. Freeman made a new paced mile record for the local track, finishing the distance in 1:26 2-5.

Walthour defeated Butler in a motor paced race, best two in three heats, at the Coliseum track, Savannah, May 20. Butler won the three mile race in 4:38. The second heat of seven miles was won by Walthour in 11:52½. Walthour won the ten mile heat in 16:33 1-5. In this race Butler lost his pace three times, each time sacrificing more than a lap. Burroughs rode an exhibition mile on a motor bicycle in 1:21 1-5.

About 4,000 people attended the inaugural meet at the new Coliseum track in Pittsburgh on May 24. The feature of the evening was a five mile heat race, paced, between Wilson and Hall, the "new Michael." Hall won the first heat in 7:51 1-5. Wilson took the second heat in 8:07 2-5. Hall was given the race in the third heat, when rain prevented the full five miles.

Robl, the remarkable Dutchman, is still showing a rare turn of speed. Cables from Berlin state that on Sunday last he broke the world's record for 100 kilometres (62½ miles), covering the distance in 98m. 18s. Dickentmann was second and "Tom" Linton was third. Bouhours, of Paris, fell in the race, but got up and resumed riding.

Joseph Nelson, who is about to turn professional, succeeded in lowering the one mile amateur motor paced record of 1:28, held by Walter Smith, by 1 3-5 seconds at Vailsburg track on May 26, doing the distance in 1:26 2-5. The performance has not, however, been passed on by the N. C. A.

Harry Elkes returned from France on Sunday last. He was accompanied by Basil Guichard, the amateur champion of France, who will turn pro and ride against Elkes on Memorial Day at the Charles River Park track, Boston, and in the evening at Providence.

MARSTON ON AMERICANS

Talked Right out in Meeting and Told Britons Some Plain Unvarnished Truths.

Frank Marston, who was recently elected president of the British Cycle Engineers' Institute, had previously spent some little time in this country, and while here he kept his eyes open. In his inaugural address he unfolded some of his learning. If there were Yankee-phobes in the audience they could not have been wholly pleased at what he told them. He said:

"If one took a broad view of the engineering as well as the political history of this country it would appear as though we were passing from an age of splendid isolation to one of co-operation and alliances.

"The great men of the past had been largely those who by their individual knowledge and genius had risen above the heads of their fellows; but the foremost men of the future would surely be those who possessed the greatest capacity for absorbing and making use of the knowledge of the day.

"The success of the United States in all branches of trade had during the last few years become so marked that the most self-satisfied Englishman could hardly fail to be impressed by it. The speaker, during a considerable portion of his life, had been fortunate enough to have unusual opportunities of studying Americans. 'I believe,' said he, 'that their success has been due to a very simple cause—their intense desire to learn. Over and over again I have seen them spend hours in conversation with Englishmen to endeavor to get their ideas and points of view. These Englishmen have given with pleasure, but very rarely have they asked for an exchange.' Because the American was so eager to learn, it was often supposed that he was ignorant, and not in a position to teach in his turn.

"The cycle industry of America had nothing like such opportunities of learning as the cycle industry of England. There, vast distances divided the principal centres of the trade. Here, the industries were grouped around Birmingham in an eminently convenient manner.

"But have we the same ideas of learning as the American?" asked Mr. Marston. "We were accustomed in this country to regard the walking encyclopædic man as the learned man, and though this was not the case in the cycle industry, still the idea of learning carried with it a sort of school board atmosphere, which was narrow, and made it far too much the learning of detail. It was not merely what we had to learn, but what we had to unlearn.

"The war in South Africa has afforded abundant evidence of the way our brave soldiers have been hampered and hindered by obsolete rules, by obsolete drill, by obsolete guns and by obsolete generals. Let us who form an important portion of the commercial militant of this country strive to

draw profit from their perils, and to lay aside, as far as lies in our power, a sin which foreigners say, and I believe rightly, doth so easily beset Englishmen. Previous presidents had warned them that the rule of thumb age was passing away. They all wished to be free from its traditions, and he thought an unprejudiced and receptive mind was one of the surest marks of such freedom. It was in this respect, and in this respect alone, that, man for man, the American seemed to him to have an advantage over the Englishman. Besides being free from prejudice, the learner must be able to distinguish between the essential and what was trivial. There are many men in all callings—and the cycle trade is no exception—of great learning and ingenuity who can hardly be considered to have made the success in life which their abilities undoubtedly deserve. It is, of course, possible to explain their apparent failure through lack of opportunity, and this is often partly true, but at the same time an undoubted weakness of the painstaking man is to lose himself in a mass of detail and technicality to such an extent that he misses the essential points altogether. Thus, even in the cycle industry, outsiders do sometimes see most of the game, and the trade has found room for the inventions of a Dunlop or a Bowden.

"The cycle engineers had a third danger. A great many of them are prone to regard the commercial side as a detail and the technical side as an essential. Time was when it was the desire of the skilled artisan that his son should sit on a high stool in an office and not have to soil his hands as his father had done. And many an honest English workman who has risen to be a master has been so spoiled by prosperity as to blush during his later years to think that he ever worked at the bench. But now a reaction has set in, and an office education is no longer so popular, because the false ideas of what constitutes a gentleman are disappearing. To an intelligent man the commercial side seemed easy, a mere question of books and figures; but it was often the simple things in this world which counted for the most.

"I have no hesitation," said Mr. Marston, "in advising the cycle engineer who desires to make a success in life to study the commercial side with at least as much care as he gives to the technical side. They should make the most of their institute in both directions, and hold out a welcome to all those in the cycle industry who had had enough experience to make them desire knowledge. It was a testimony to the ignorance of the rule of thumb age that it had bequeathed them a proverb, 'Experience teaches fools.' The present President of the United States had asserted, however, that fools were those who did not learn by experience, but went on, time after time, making blunders and attributing their failure to want of luck."

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

If You Are Interested in Automobiles

**The MOTOR
WORLD** Devoted to the
Automobile
& Kindred
Interests

WILL SURELY INTEREST YOU.

It is published for the information
of the average mortal; no dic-
tionary of mechanical
terms is needed to
understand it.

**PUBLISHED EVERY THURSDAY
AT 123-125 TRIBUNE BUILDING,
NEW YORK CITY.**

**\$2.00 PER YEAR.
10 CENTS PER COPY.**

SAMPLE COPY ON APPLICATION.

Ideas of American Geography.

The Cyclist, of England, was never noted for its geographical knowledge of this continent. Its latest is to lift bodily from the *Bicycling World* the story of the paper tire which a staff representative recently found in a local repair shop, and credit the finding to a Chicago shop.

Apropos of this lack, on the part of the Cyclist, of a "bump of locality," the following can be vouched for as within the knowledge of a *Bicycling World* man:

The only time that Sturmev, for long years editor of the Cyclist, was on this continent was at the time of the international meet in Montreal. One night at the hotel he inquired of a group from the States what would be the best train to take in the morning for the Rocky Mountains so that he could be back in Chicago the following morning.

It may be urged that the groundwork of the above is not new, and that Sturmev was "'avin'" his joke. But those who know the Englishman, least of all those who know Sturmev, will not be insistent on this point.

Evidently when Sturmev gave up the editorial chair of the Cyclist he left his mental chart of this continent behind him.

English as She is Writ.

Of the many descriptive circulars which come to this office there is now and then one which is a marvel in its way. Frequently the only clew as to what the sender is trying to describe is the illustration that accompanies the worded matter.

One of the latest examples is addressed "to all whom it may concern," and refers to "the automatic or safe cycle," under which it is stated "not a cripple on a crutch can be made front or rear driving, single or double steering with one or both wheels, and with folding frame. As a triangular frame to steer with the back wheel; also front or rear driving for ladies' use."

Cycling Still Leads and Why.

The Cleveland Leader, in forecasting bicycling for 1902, makes the following good points:

"If any new form of exercise has taken the place of bicycle riding it is only so in a small degree. Golf is played by possibly 1 per cent of the number of women in the United States who used to ride bicycles. The few who have many automobile trips get no physical strength from that sort of pleasure, except such as comes from enjoyment in the open air, without exercise. Bowling and ping-pong are sports for indoors, and they belong to winter rather than summer. Walking, done with energy and on a large scale, is very fine exercise, probably the best of all for the average man or woman; but it is not much more common now than it was in the height of the cycling fever.

"The simple truth is that nothing induces such hearty, abundant and stimulating exercise as bicycling used to give hundreds of thousands of Americans, of both sexes, who lived a sedentary life before the 'wheel' became very popular, and are doing it again now. Some abatement of the craze for riding far and fast under all circumstances, in season and out, was as desirable as it was certain, but much bicycling was better than none for most of those who formerly took delight in the sport.

"The stimulus of bodily exercise is as wholesome and strong as ever. Nature has lost none of its charm or glory. The roads are better than they were, and bicycles are certainly cheaper, if not of superior quality.

"Possibly there will yet be some reaction toward the conditions of the wheeling boom. The early fever will not rage again, but in more moderate fashion the use and enjoyment of the most effective device yet discovered for going afield, without too much effort and at small cost, will be restored to general favor."

How They Comfort Themselves.

Baiting the bull was an Old World pastime that long since lost its favor. Like all old things, the cycle of time brings it back again. The modern method, however, differs a bit, and as at present carried on it is to remind John Bull of the American invasion.

Evidently the Manchester Guardian, that always defender of the "right tight little island," has had a pin prick. Here is its latest:

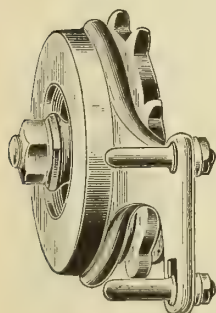
"American 'drummers' march boldly into private offices, retaining their hats and cigars, and assure the astonished merchants that Englishmen are 'dead slow,' and then introduce something which 'will revolutionize the trade.' In price, quality and utility their wares will frequently bear no comparison with goods made here or imported from the Continent, and the speculators often return home sadder and wiser. The captain of a well known liner said recently that he had never before brought over so many business men in his saloon. But, he added, though they talk of the British gold they are going to capture, a week or two later many of them are returning in the steerage utterly dejected."

The Absent Minded Rider.

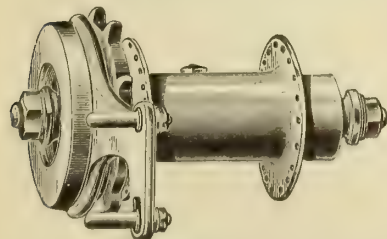
The following is told as a true story: After bumping over the roads for nearly five miles with a nail sticking in the rear tire, hunting for a repair shop, the repairer asked the rider why he had not pulled out the nail and pumped up. The tires were self-healers.

End of Mannesman Plant.

The past month seems to have been prolific in echoes of past boom days in the bicycle business. Another reminder is furnished in the recent sale of the machinery of the Mannesman Cycle Tube Co. to the American Brass Co., of Waterbury, Conn.



DETACHABLE



UNIVERSAL

PATENTED
June 12, Aug. 14, Dec. 25, 1900.
Feb. 19, Mar. 26, April 1, 1901.

Wyoma Universal

COASTER, BRAKE AND HUB COMBINED.
WILL FIT ANY BICYCLE. READY TO IN-
SERT IN WHEEL BY LACING IN SPOKES.

Wyoma Detachable

MADE TO FIT THE LEADING STANDARD HUBS.
BOTH MODELS WILL ALLOW REAR WHEEL TO

RUN BACKWARDS.

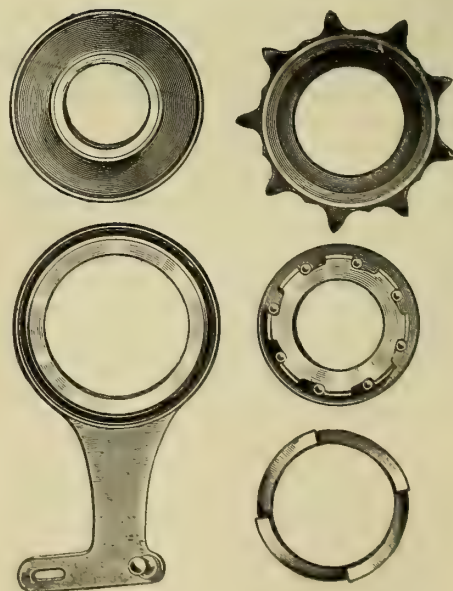
FIVE PIECES, SHOWING CONSTRUCTION OF 1902 MODELS.

NO FIBRES. NO BALLS.

FULLY GUARANTEED.

MANUFACTURED BY

Reading Automobile and Gear Company,
TENTH AND EXETER STS., READING, PA.



HIS CONVERSION COMPLETE

Elwell Finally Rides a Motor Bicycle and Finds it all his Fancy Pictured.

Among those who noticed my cry for light re the motorcycle in the columns of the *Bicycling World* was my old friend E. H. Corson, a member of the "Down East" tour of 1883 (the first tour I had the pleasure of conducting), and at that time a most enthusiastic champion of the Star bicycle. When the advent of the safety drove that steel grasshopper off the earth Corson took charge of the interests of the Crescent bicycle in Maine, New Hampshire and Vermont, and made a remarkable record in the cycle trade. He was also the designer and manufacturer of the Faultless bicycle, and by long experience and genuine love for the wheel is entitled to be considered an authority on all matters connected with the bicycle.

Knowing this, I was greatly pleased to learn that he had taken up the motorcycle with all his old-time enthusiasm, and was anxious to prove to all doubting Thomases that the motorcycle is the coming thing on wheels, and that the particular one for which he is the New England representative has no superior and few equals. He wrote me that for the sake of making me a convert in fact (as I was already in theory), and a chance to talk over old times and the proposed motorcycle tour next August, in which he is greatly interested, that he was coming to Portland to give me a chance to learn all about the motor and the pleasure it afforded the cyclist when incorporated in the bicycle. He kept his word and accomplished his desire.

I presume that his bicycle is similar in its operation to other motorcycles, but whether better or worse I am at present no judge, as it is the only one I have as yet had an opportunity to try. However, if other makes are as good or better I am positive that the motorcycle in a very short time will easily outnumber all other motor driven vehicles.

Mounted on the machine, a few turns of the pedals set the engine at work, and I was off on my first ride on a motorcycle. I had feared that the vibration would be so great that it would largely reduce the pleasure of riding, but I found this to be a mistake. On the contrary, the large saddle, the 2-inch tires and the weight of the machine made very smooth running, and gave a feeling of solidity not found on the motorless bicycle. This smoothness of running is further enhanced by the steadiness with which it steers; the motor has a tendency to drive the bicycle in a straight line, and to ride hands off is the easiest thing imaginable. The noise of the exhaust is not at all objectionable; in fact, it is desirable, for it tells you just how your motor is working, and when in perfect order its even buzzing is as pleasant to the ear of a motocyclist as a well tuned piano is to a musician.

It was immediately apparent to me that the rider who studies his machine and its operation with intelligence will achieve far better results than the rider who trusts to luck. This, of course, is true of almost everything, but is especially true of motor driven vehicles, where the failure of any one of its many parts stops all. And this very fact adds to the pleasure of riding a motorcycle, for it largely rests with you whether or not the machine does its best. To bring it to the base of a hill in just the right condition for it to put forth its best efforts on the grade, to feel it spring up the incline with all its power and to watch out and give it a helping foot at the right moment, and thus conquer a hill that for years had forced you to puff and pant, whether riding or walking, gives one a sense of pleasurable triumph that can be appreciated by every cyclist.

In going downhill it is under better control than the motorless bicycle, for the back pressure of the engine keeps it well checked and the coaster-brake does the rest. But it is on a fairly level road with a good surface that it lets itself out and carries you along at a rate of speed that is hair raising to one to whom ten miles an hour is a fast pace. I have not yet got used to being whirled along at a twenty-mile-an-hour gait. Moving at this pace your mind must act quicker also, for you overtake carriages and pedestrians, and come upon defects in the road, railway crossings and other obstructions much sooner than you expect, and are in danger of not starting to avoid them until too late. I imagine that one soon gets used to this, but at present twelve miles an hour is good enough for me on Maine roads—on better highways I should have more courage.

In city traffic, where an excessively slow pace is sometimes needful, and where uneven stone sets, rendered still more dangerous by the sprinkling cart, is the rule, the motorcycle must be used with caution; and oftentimes it is better to stop the motor and rely upon pedalling. For this reason, if for no other, the pedalling gear should be retained on the motorcycle and its weight kept within reasonable limits.

While it can be driven over rougher roads than the motorless bicycle, it cannot pick its way so easily unless its speed is reduced to a point where the engine must be aided by the pedals, and this is what I should prefer to do. For its fullest enjoyment it requires, even more than the motorless bicycle, smooth highways, on account of its greater speed, and where these are to be found the motorcycle is bound to come into almost universal use. It is glorious sport, and if this catches the eye of any cyclist who is debating the question of purchasing a motorcycle urge him to hesitate no longer, but to send in his order at once.

F. A. ELWELL, Portland, Me.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

WHAT SHE WANTS

Wheelwoman Specifies the more Important Details of the Motor Bicycle She Desires.

A few designers have tackled the proposition of "getting up" a motor bicycle for women, but most of them have found there are so many conditions to be taken into account that matters will have to wait until some things are better understood from usage and concomitant conditions.

What some of the many conditions are can be best appreciated by reading the following, from the pen of a woman who writes to a contemporary in the matter:

"What we want is this: an engine, preferably hung in a vertical position, when any oil exuding from the crank case will fall upon the ground. It should be freed at will through traffic, so as to permit of ordinary pedalling when desired. Simplicity and accessibility of all parts; a detachable dress guard, not hooked to the mud guards, but capable of being undone by a thumbscrew or butterfly nut; a belt protector that will readily unhinge; plenty of clearance, even if it be obtained at some sacrifice of appearance, for many of us take pride in grooming our own machines, or else are forced to tend them through circumstances. In any case, plenty of room is wanted, as also are wide mud guards, firmly attached so as not to rattle, and placed a couple of inches from the tires; puncture proof inner tubes; all levers and brake handles within reach of the hand; a duplex petrol tank, sufficient for a run of over a hundred miles; a visible feed lubricator, and space behind the saddle to carry a luggage carrier. These are just a few of the points likely to appeal to the practical lady rider."

For Towing Purposes.

It is not particularly a new thing in motor bicycle riding—in fact, the *Bicycling World* man has done the thing a few times himself—but, seeing a motor bicyclist towing two plain, everyday cyclists twice in less than an hour last Sunday, suggested that here was a thing, the more of it is done, that will go a long way toward rapidly increasing the popularity of the newest in bicycles among riders who get away from the city's roads.

As was said, the towing act was seen twice. In both instances the road grade was a long up slope, and the ease with which the riders went by their less fortunate fellow men could have but one effect—that of creating a desire in the minds of the latter for a machine that would do its own work.

Another thing which was noticed was that in each instance one of the riders being towed had a fixed gear, while the other had a bicycle equipped with a coaster-brake. The downright comfort of the latter could not fail to impress his less progressive towee companion.

MESSAGES FOR GARCIA

Why Many Fail to Reach Him—Employers are Often to Blame and Why.

When "the fellow by the name of Rowan" was sent for and given the famous "Message to Garcia," how he took it and what he did is on record in words as stirring as the deed itself.

The instructions given him, the limitations on his freedom of judgment, we have no means of knowing. We assume he had a free hand—the responsibility was his—he was looked to for results and the selection of the best means to achieve the desired end was his concern, and his alone.

Right here is the reason so many messages never reach Garcia, says Kenneth Falconer in the American Machinist. We are told the world needs the man who, when told to do a thing, will "say nothing, but go and do it"—we are told "he is wanted in every city, town and village, in every office, shop, store and factory."

He IS wanted, badly wanted, but nine times out of ten he is just where he is needed, and, given a fair chance, stands ready to meet the need. He is not nearly so scarce as some would have us believe.

"The fellow named Rowan" was not told he must travel by a certain line because those in authority were financially interested therein. He was not instructed that if he needed horses he must buy them from the So and So Company for the same reason. If he required assistants his selection was not limited to this official's cousin's son or the other's grand-nephew, quite irrespective of the qualifications of either.

The man who does not carry a dinner pail nor yet is an employer of labor is the man looked to to "say nothing but do the thing," and too often his usefulness is impaired, his value lessened and himself disheartened by needless limitations of the right to exercise his own best judgment of ways and means. Too often those with a "Message to Garcia" feel they must tie the messenger down to follow in every detail their judgment instead of his own.

In offices, stores and factories we find him—the man looked to for results—held responsible for failure, yet debarred from selecting what he knows are the best means to achieve success; the office manager, compelled to refuse the small advance in salary asked for by a good clerk, an advance that means all the difference between hopeful belief in success and disheartened admission of failure; the chief clerk, obliged time and again to overlook inability, indifference and inattention in a "relation of the boss's"; the foreman, forced to keep down expenses by makeshift repairs or tools.

Men who will "say nothing but do the thing" are not scarce—thousands of them are to-day in positions where their usefulness is limited by cast-iron rules as to how the thing

is to be done. If the men with messages to send would more nearly limit their instructions to the main facts necessary there would be fewer important messages go astray or fail to be delivered.

There are some men—may their number increase!—who realize that responsibility implies authority, who recognize no relationship in employees, no claim but that of loyalty and service; who would rather have their best employees make mistakes of judgment now and again than always escape by shirking responsibility and avoiding decision.

Verily, such men have a threefold reward—in loyal, willing service, such as money alone cannot always command; in the results such service necessarily produces, and in their own greater freedom for other and more important things.

Sentiment in Business.

Dig into the heart of the cool, reserved business man to-day and you will find it just as full of gright, warm red blood as is that of the man to whom the word business is a horror, says a man who believes in sentiment.

With the dreamer the expression of sentiment takes the form of poems and paintings and word images, which tell how much he can love or sacrifice or enjoy, but the modern business man, by tireless energy, unremitting toil and almost savage concentration heaps up piles of golden dollars, and with them tells how he feels.

He may not paint with word, or color, or lovely sounds, but his beautiful home, his daintily adorned family, his large charities, his watchful care over trusted employees, show that every act and move he makes is shot full of deepest, truest, most lasting of sentiment.

And the same incentive that causes to blaze on the breast of a millionaire's wife the wealth of the diamond fields finds a hearty echo in the bow of ribbon that the humble wage worker carries carefully to his heart's delight.

Take sentiment out of the pages of modern magazine advertising, and the hint of baby fingers, the happiness of loving women's eyes, the enjoyment of gratified men, the reflection of the whole best side of human nature flies with it.

Read sentiment and lots of it into your advertising; understand fully how mighty a factor it is in the developing of the purchasing thought in human minds, and you take hold of a lever strong enough to move the world.

Touch the springs that respond to the feelings that prompt love of home, of sweetheart, of sister, and you infuse into your advertising a drawing power that will sommand success of the greatest sort.

Leave sentiment out of your calculations, be tremendously practical, pride yourself on having good, common sense, insist on giving absolutely nothing but plain facts, then watch the fellow who realizes that human hearts, love and sentiment are not for one moment to be overlooked leave you behind in the race for success.

TAPPING NEW TREES

The Search for Added Sources of Rubber Supply Leads to the Cira Plant.

It is interesting to watch how the growth of the tire trade has increased in this direction, the energies of all possible rubber producing countries.

In Portuguese East Africa very interesting experiments, in one instance on a very large scale, are being made in the cultivation of rubber trees. The plant which has been chosen for these trials is the variety known as the "Cira" rubber tree.

Some years ago many trees of this variety were planted, and these have now attained a considerable size; that the tree grows and grows well admits of no doubt, but as far as information has been gathered by a consul at the shipping port of Inhambane, the yield of "milk" is too small to allow of the plant being cultivated with any very large amount of profit.

The consul adds, however, that apparently those who have up to the present attempted to "tap" the trees have had no previous experience in this work, and it would be rash to decide that rubber cannot be profitably grown in this district before some skilled workmen have made exhaustive trials on the trees.

In the near future this will certainly be done on the large plantation which was started two years ago. On this plantation there are already some 200,000 trees in a fine healthy condition. In the first year many of these trees grew to a height of over ten feet. The plant appears to grow with extraordinary rapidity, and in all situations, whether on low-lying lands or on the sides of sandy hills.

Wild vine rubber is also brought to the port, but in such small quantities and at such high prices, from 3 to 6 cents per pound, that it is scarcely worth while taking into consideration as an article of export.

The Retail Record.

South Paris, Me.—L. P. Swett sold out to Kenniston Bros.

Lyons, Kan.—J. A. Motler opened store.

Lockport, N. Y.—Frank M. Stratton, moved to 27 Locust street.

Middleton, Conn.—J. F. Connery, fire; nominal loss; fully insured.

Derry, N. H.—J. F. Parquette, reopened store.

London, Ont.—William Payne, closing out business.

Indianapolis, Ind.—Conrad Mueller & Co., fire; loss not estimated.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

MOTOR BICYCLE PACING

Permitted in Amateur Events Abroad it Results in new Records at Once.

Considerable interest is being manifested in the use of the motor bicycle for track pacing purposes during the coming season. In the absence of any real experience, so far, the wonder is naturally in the direction of their all round capabilities. Lacking any performances in this country, the following account of its work on May 1 in England is decidedly interesting. It will be noted that it is all in favor.

The motor bicycle earned the good opinions of everybody as a pacing instrument in the hour race among members of the Polytechnic C. C. at the Crystal Palace. For it proved itself fast, safe and reliable—subject to no tricks and possessing no bad habits.

G. V. Rogers, on his Mitchell, and H. Martin, on his $2\frac{3}{4}$ horsepower Excelsior, were fairly evenly matched, and with their track experience proved very capable pacers, and each man was obviously able to take his man along at another five or six miles an hour faster if he wanted it.

Wilkins rode Hooydonk's Phoenix, covering over 29 miles in the hour, and he was apparently suiting the pace to that of the rider. Leonard was on his Werner, Rivett on his Blizzard, Parry on his Minerva, and there were one or two other machines.

Tandem bicycles—without motors—were completely outclassed in the matter of speed, but the silence with which a tandem paced rider went by was a little bit weird. In this respect the motor bicycle was a good warning to that class of thoughtless deadhead who rushes across the track without looking out for danger.

Rowland Janson went through behind Rogers with scarcely a falter, except during his bad time about half way, due entirely to being unfit for such a distance at such a pace. S. C. Hill, too, was not properly trained, but Ingram rode very consistently, being wise, perhaps, in not allowing himself to be pulled out, lest his sprint should be spoiled.

Janson rode 30 miles 927 yards in the hour, which is 1 mile 447 yards better than the record distance ridden by H. Chinn behind tandem pacing. Hill accomplished 30 miles 757 yards, so that Janson and Hill are the first amateurs to attain the coveted honor of riding 30 miles in the hour.

It is sincerely to be hoped that ample pacing of a suitable kind will quickly be obtainable so as to prevent it getting into but a few hands. We think that it will give a welcome fillip to amateur sport, and will interest and attract the spectator, who seemingly took very kindly to it on Thursday last. * One machine being capable of taking a man right through a race avoids the changing of pacers, with all its dangers and its element of unfairness through bad joining, and thus each competitor is able to exert

his best effort, reducing the possibility of having his chances spoiled by outside muddling.

Moreover, the motor being capable of travelling much faster than he is likely to want to go, again tends toward the equalization of the outside help that pacing affords. So, taken all around, motor bicycle pacing may be written down as a distinct improvement.

Attacks the Army of Assemblers.

England's bicycle makers, among their other grievances, have that of competition from many who are not fairly in the business, such as letter carriers, butchers, etc., who assemble bicycles as a side line. The competition is insidious, and there seems to be no way to overcome it. Another class of assemblers is made up of workmen in bicycle factories, who use their spare time in building machines and supplying them to their own circle of friends.

It is against this latter class that the manufacturers think they can wage a warfare of reprisal. To do this the national association of manufacturers of bicycles—the N. A. C. T., as they are officially known—have published a card to their members bearing the following inscription and intended to be hung in the factories:

"N. A. C. T.

"Notice to Workmen.

"Workmen are only employed in this establishment on the understanding that they do not engage in the cycle business, directly or indirectly, in their own time or otherwise on their own account. Any workman breaking this rule will be instantly dismissed, and any such person will not be employed by any other member of the association.

"By order."

The first part of the order is defensible, as it is clearly within the right of an employer to dismiss a workman when he likes; but the second part would seemingly presage trouble for members of the association under the laws of England.

The Force of Example.

Great is the force of example, as many old riders are demonstrating just now. The fact that one of them is riding again, possibly after an abstention of two or three years, impels friends to take up the pastime again.

"I was much surprised the other day," remarked a well known dealer to the Bicycling World man, "to receive a visit from Walter Masterson, the old Sun cycling editor. He told me to have his wheel brought out and looked over, cleaned and oiled, as he wanted to use it again. He went on to say that lots of his friends had taken to cycling again, and he thought he would follow their example.

"The machine had been stowed away for a couple of years, and the order to get it down was a big surprise. But there are lots more of the old timers who are coming back." And the tradesman smiled in a satisfied way that spoke volumes.

MACHINE TOOL EVOLUTION

Too Little Appreciated Despite its Wonder-Working—One Man's Regrets.

"As a subject of interest and study I don't see why the evolution of machine tools should not rank with other scientific questions," says a writer in a contemporary.

"Read the life history of Darwin, Gray, Agassiz, Lyell, and note the pervading enthusiasm in every discovery of what is old and gone before. It is apparently by the close study of what has preceded our present knowledge that the future is to be revealed. I am not quite confident that the same relative value can be claimed for a study of the first or early machine tools. But there can be no question as to the extreme interest to every one who is engaged in mechanical pursuits as to where and how our well known types have developed to their present state of perfection, or imperfection, as the case may be.

"The complete history of all of our machine tools, with the exception of the lathe, will not take us back more than a hundred years. And how easy and simple is the history of our workshops compared with the searchings of savants for geological and paleontological discoveries—searching mountains for glacier scratched surfaces to confirm theories of an ice age; excavating fossil deposits and building up extinct forms from even a single bone.

"But with our machine tools and presses, how recent compared with other forms of researches! We have all the work ready done, but how few really know the beginnings of our standard types of machine tools!

"And will you allow me to say, Mr. Editor, in the very smallest type in your printing office, that our countrymen are perhaps the most ignorant of all? Perhaps this is natural, as we all are content to agree that our successful machinists have not led that method of life which permits of searching after things in the past. 'To-morrow' or 'to-day' is the watchword with them. But when men earn hours of leisure as one of the results of hard work their thoughts will turn to ancient history, even if only of a wheelbarrow."

Sidepath Arrests in Question.

The question of the legality of arrests for using sidepaths within city limits recently came up in a Rochester (N. Y.) police court. Five bicycle riders were arrested on charges of having ridden upon a sidepath within the city limits without having secured sidepath tags.

The police judge stated that it was his understanding that arrests for infractions of this section of the sidepath regulations were not legal within the city limits. An attorney who was present to prosecute the cases argued that jurisdiction over sidepaths within the city limits had been granted the governing board by the Common Council.

The judge was not convinced, and discharged the prisoners, partly owing to circumstances in their favor and partly on account of his interpretation of the law.

The Week's Exports.

Australia and the East Indies figured prominently in last week's export manifest, with purchases of \$6,300 and \$4,000, respectively. England, however, occupied the pride of place, with \$11,000. Germany (\$6,500) and France (\$5,600) were next in order. The record in detail follows:

Antwerp—44 cases bicycles, \$690; 6 cases bicycle material, \$372.

Argentine Republic—1 case bicycles, \$116.

Amsterdam—76 cases bicycles, \$2,250.

Bergen—1 case bicycles, \$78; 1 case bicycle material, \$15.

Brazil—1 case bicycles, \$17.

British Australia—221 cases bicycles and material, \$6,362.

Bremen—1 case bicycles, \$50.

British East Indies—193 cases bicycles, \$3,504; 13 cases bicycle material, \$419.

British West Indies—47 cases bicycles and material, \$1,380.

Copenhagen—24 cases bicycles, \$470; 4 cases bicycle material, \$185.

Cuba—2 cases bicycle material, \$200.

Egypt—3 cases bicycle material, \$75.

Frankfort—1 case bicycle material, \$225.

Florence—32 cases bicycles, \$708.

Gottenburg—3 cases bicycles and material, \$188.

Genoa—21 cases bicycles and material, \$873.

Glasgow—6 cases bicycles, \$217.

Hamburg—151 cases bicycles, \$4,205; 38 cases bicycle material, \$2,344.

Helsingfors—24 cases bicycles, \$800.

Havre—74 cases bicycles, \$700; 82 cases bicycle material, \$4,966.

London—9 cases bicycles, \$568; 71 cases bicycle material, \$3,678.

Liverpool—178 cases bicycles, \$4,604; 23 cases bicycle material, \$918.

Lisbon—7 cases bicycles, \$260.

Paisley—2 cases bicycle material, \$92.

Rotterdam—11 cases bicycles, \$123; 13 cases bicycle material, \$400.

Southampton—1 case bicycles, \$45; 108 cases bicycle material, \$6,294.

Stockholm—12 cases bicycle material, \$830.

Stuttgart—1 case bicycles, \$120.

United States of Colombia—1 case bicycle material, \$16.

Beauty Spots in New England.

At this season of the year many people are making plans for their summer vacation. Some will return to their old haunts, while others will seek new resorts.

For scenic beauty Northern New England has no equal, and one unacquainted with this section in detail will gain much information as to the topography and beautiful views obtained from various points by a perusal of the numerous pictures published by the Boston & Maine Railroad. They are issued in five portfolios, made up wholly of halftone reproductions of suitable size to show up the scenery to proper advantage. Each book contains thirty or more scenes, and cover mountains, seashore, lakes, rivers and historic spots, and are mailed upon receipt of six cents for each book. A catalogue of descriptive literature covering the various sections of New England will be mailed free by the Passenger Department, Boston & Maine Railroad, Boston.

The Spy Remarks the Difference.

"It is pleasant to see so many persons riding bicycles, because one knows that the wheelmen are enjoying themselves in a wholesome and rational manner," says the Worcester Spy.

"Many have remarked, as the days have become pleasanter, the increasing number of bicycles to be seen in Worcester streets. They are no so numerous as they were five or six years ago, but there are enough of them in use to show that the early reports of increased interest in bicycling were well founded, at least so far as Worcester is concerned.

"No one wishes for a return of the old bicycle fever which impelled men and women to make century runs, and sent through the country each Sunday crowds of men and boys who seemed to have no other object than to reach some goal in the shortest time possible. The bicycle deserves rational use. The rider, when he propels his machine at a moderate rate, can look about him almost with the same freedom he would enjoy if driving, and make the exercise valuable to body and mind.

"The revival in wheeling will probably be permanent. Since people are not rushing to any excess in the sport there is no chance for another violent reaction. The bicycle may gain in favor until wheeling really holds a stronger place among out-of-door sports than it had when at its height."



IT HAS PAID YOU

to handle
**THE SMITH TWO-ROLLER
SPRING SEAT POST**

so far this season, and we promise you better things to come. The cream of the trade is still before you.

The best article of its kind is the one your trade appreciates. The **Smith** brings you new customers.

RETAILS FOR \$1.50.

JOS. N. SMITH & CO., - Detroit, Mich.



CUCKOO CHIME.

Not merely a Cuckoo but THE Cuckoo

**MADE IN THE RIGHT WAY
AND SOLD AT THE
RIGHT PRICE.**

No Dealer's Stock is complete without it.

FRANK MOSSBERG COMPANY, - ATTLEBORO, MASS.

Schrader Universal Valve.

(Trade Mark, registered April 30, 1895.)

NOTICE.

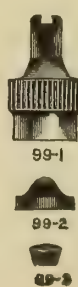
Manufacturers of Bicycles, Jobbers and
Dealers:

In order to facilitate the
obtaining of

**PARTS of the
Schrader Universal Valve,**

I have concluded to sell
parts only to the general
trade.

Parts 99-1, 99-2, 99-3, 99-4, may be had from all the makers,
or from A. SCHRADER'S SON. Price List and description of
parts sent on application.



99-1

99-2

99-3

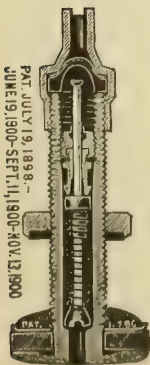
SIMPLE AND ABSOLUTELY AIR-TIGHT

Manufactured by

A. SCHRADER'S SON.

ESTABLISHED 1844.

**30 and 32 Rose St.,
New York, U. S. A.**



The Week's Patents.

700,349. Brake and Bell for Vehicle. Soren H. Madsen, Hayward, Cal. Filed Nov. 4, 1901. Serial No. 81,030. (No model.)

Claim.—1. The combination in a bicycle brake of clamps, means for securing them to the bicycle head, a plate fulcrumed with relation to said clamps, and having a forked outer end, a roller journaled between said forks and including a central core, an elastic sleeve surrounding the core and metal bands upon the ends of the core, said sleeve having the portion between the bands of less diameter than said bands, and provided with a spiral wrapping of cords, a pressure plate having shoes adapted to press upon the metal end bands of the roller in opposition to the pressure of the central portion of the tire, a spring acting upon said plate to hold the shoes normally out of contact with the roller, a guided rod connected to the plate, and extending upwardly, and a brake lever for actuating the rod.

700,426. Bicycle. Irving W. Keithley, Worcester, Mass. Filed Oct. 18, 1897. Serial No. 655,543. (No model.)

Claim.—1. In a bicycle, the combination of a crank shaft gear, a rear wheel gear, an intermediate rim gear connecting the crank shaft gear and rear wheel gear, said gears having their working faces grooved to receive a supporting ring, which supporting ring incloses the intermediate gear, substantially as described.

700,492. Pedal for Velocipedes. Edward W. Henstock, Chester, England. Filed July 17, 1900. Serial No. 23,924. (No model.)

Claim.—1. The combination, with a crank and a pedal shaft pivoted to the outer end of the same, said crank having a longitudinal slot in its outer end and a second longitudinal slot at an angle to the first and in the plane of movement of the pedal shaft, of a snug projecting from said pedal shaft and entering the said second slot, a slot in said snug registering with the first named slot of the crank when the shaft is in lowered position, a locking bar pivoted at one end to one side of the crank and adapted to swing in the first slot across the second, a screw threaded projection on the opposite end of the locking bar, and means for connecting said projection with the crank, substantially as set forth.

700,497. Electric Battery. Conrad Hubert, New York, N. Y. Original application filed Aug. 9, 1900; Serial No. 26,397. Divided and this application filed April 1, 1901. Serial No. 53,929. (No model.)

Claim.—1. As a new and improved article of manufacture the hereinbefore described

battery cell having two elements, and having a centrally disposed contact point and a surrounding annulus upon one end thereof, substantially flush with each other and connected respectively with the several elements, the contact point and annulus forming terminals of the respective elements of the cell, substantially as described.

700,590. Bicycle. Henry C. Weeks, Bay-side, N. Y. Filed March 1, 1901. Serial No. 49,437. (No model.)

Claim.—1. A bicycle comprising a front wheel, a rigid frame having a horizontal lower rear brace A6, the rear brace or fork A9, having its ends extended in alignment and constituting journals, sprocket wheels mounted on said journals, corresponding front sprocket wheels, a transverse front shaft N, journaled in the front portion of the frame, endless travelling treads running on the four sprocket wheels, the rear running wheel journaled in the rear fork above the lower brace, and a gear connection between such running wheel and one of the rear sprocket wheels, substantially as shown and described.

700,598. Primary Battery. Michael M. Bair, Levallois-Perret, France, assignor to Société Anonyme le Carbone, Levallois-Perret, near Paris, France. Filed March 21, 1901. Serial No. 52,199. (No model.)

Claim.—1. In a galvanic cell, the combination with the inner vessel of a cover having an internal annular recess adapted to receive the edge of said inner vessel, said cover moreover comprising an external annular frame, having an internal lip thereon over which said edge can be folded, and insulating binding material for securing said inner vessel within said annular frame, substantially as described.

OILERS.

"PERFECT"



25c.

"GEM"



5c.

"LEADER"



10c.

"CROWN"



5c.

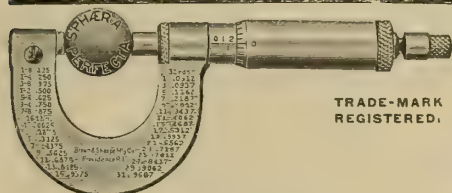
"STAR"



10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs, 240-2 W. 23d St., N. Y.



STEEL BALLS

TRADE-MARK
REGISTERED.

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

THE
TWO SIDES
OF THE
**CUSHION
FRAME**
Luxury
for the Rider.
Profit
for the Dealer.
WHY

shouldn't it appeal to
both seller and buyer?

HYCIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

The H. A. Matthews Mfg. Co.

MANUFACTURERS OF

BICYCLE FITTINGS

of all description and of the finest quality,

SEYMOUR, CONN., U. S. A.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

*Electric Lighted—Chicago,
St. Paul and Minneapolis*

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

*Fast time to Marquette
and Copper Country*

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburg
388 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.

SOLAR LAMPS

ALWAYS SATISFY.

Badger Brass Mfg. Co., Kenosha Wis.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines. A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.



THE BICYCLING WORLD

FOUNDED 1877

and MOTORCYCLE REVIEW

In which is incorporated "THE WHEEL" (New York) and the "AMERICAN CYCLIST" (Hartford)

Vol. XLV.
No. 10.

New York, N. Y., U. S. A., Thursday, June 5, 1902.

\$2.00 a Year.
10 Cents a Copy.



THE ONE

that improves the bicycle to which it is applied.

It not only saves the rider's energy and adds to his pleasure, but it does not affect the easy running of his bicycle.

(It was a bicycle fitted with a Barwest that won the Metropole Cycling Club's open coasting contest in New York, May 10.)

The Barwest coasts on balls, hence no friction.

It has brake ring in centre of hub, hence no sticking or binding.

It has sprockets always in line, hence no side play or side strain.

It has other features that should claim the attention of all who are interested in coaster brakes. Are you one of them?

BARWEST COASTER BRAKE CO.,

83 Chambers Street, New York.

PACIFIC COAST DISTRIBUTORS: Phil. B. Bekeart Co., 114 Second St., San Francisco, Cal.

**THE DEALERS'
ONLY FRIEND.**



The Racycle

NEVER CHANGES AN ESTABLISHED PRICE.

NEW GOODS FROM FRESH STOCK.

No Has Beens, Dead Ones or Junk to offer at less than factory cost

THE ONLY GENUINE HIGH-GRADE WHEEL MADE.

THERE ARE NO CHEAP RACYCLES.

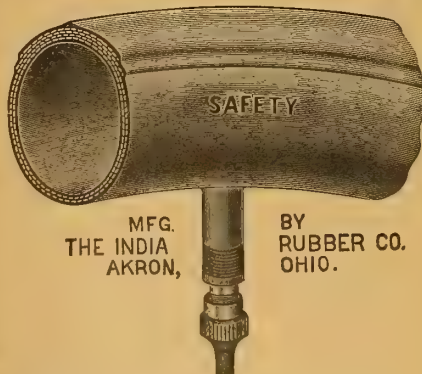
DEALERS KNOW IT.—RIDERS KNOW IT.—THE PUBLIC KNOW IT.

Why not give your trade to the only concern that has refused to aid
in demolishing prices and cutting down the Dealers rightful profits?

The Miami Cycle & Mfg. Company, MIDDLETOWN,
OHIO. ~ ~ ~

We have the largest and best assortment of tires
ever offered to the bicycle world.

THE SAFETY



MFG.
THE INDIA
AKRON,

BY
RUBBER CO.
OHIO.

THESE ARE TWO OF OUR
LEADERS AND MUST
BE SEEN TO BE
APPRECIATED.

They speak for themselves
and sell themselves.

See that tread?
Its tough!
It's puncture-proof!

WRITE US FOR PRICES AND
SPECIAL INFORMATION.

THE DAISY



MFG.
THE INDIA
AKRON,

BY
RUBBER CO.
OHIO.

A big winner last season.
Leading the procession
this season!

THE INDIA RUBBER COMPANY, Akron, Ohio.



WHAT'S IN A NAME ?

If it's the name

K O K O M O

moulded

on a tire

it is a guarantee of en-tire
satisfaction.

Nothing unfit to bear the
name is permitted to leave
the Kokomo factory.

Kokomo Rubber Company

KOKOMO, INDIANA



\$25.00 REWARD

For information about dealers using or handling infringing tire fluids. **WRITE FOR CONDITIONS.**

NEVERLEAK

and GLINES LIQUID RUBBER are the only fluids that can be legally used in pneumatic tires.

LAWSUIT NOTICE!

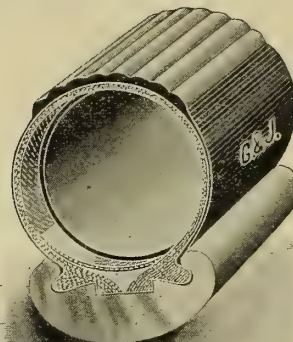
We respectfully advise our friends and the trade that we have commenced suit in the United States Court against the Fixem Mfg. Co. of Pawtucket, R. I. for infringement of our Neverleak patent rights and that same is now pending.

Suits against other infringers, wherever discovered, will be promptly instituted.

We believe the trade in general is in favor of fair play and we take this opportunity of guaranteeing to prosecute anyone violating our rights by making, using, selling or offering for sale any fluid or compound not made by us.

BUFFALO SPECIALTY MFG. CO., Buffalo, N. Y.
Owners of NEVERLEAK Patents.

G & J TIRES



MADE FOR THOSE WHO WANT THE BEST.

They are detachable, double tube; are made from the best materials; ride easiest and wear longest. Anyone can repair them anywhere.

G & J TIRE CO.
INDIANAPOLIS.

C. B. BARKER & CO., Ltd.

93 Reade St., New York City.

EVERYTHING IN THE
Bicycle and Automobile
SUNDRY LINE.

Novelties Tools Specialties
Standard Goods at Standard Prices.

SEND FOR OUR CATALOGUE BEFORE PURCHASING.

SPECIALTIES:

NATIONAL CEMENTS.
COLUMBIA MORGAN BARS.
CRAWFORD BICYCLES.
BARKER BICYCLES
PIONEER TIRES.
FRENCH HORNS.
COASTER BRAKES.
HILTON VALVES.
DUNLOP TIRES.
LAMPS.

FAIRBANKS WOOD RIMS.
AMERICAN HORNS.
INDIA TIRES.
BELLS.
TIRES.
OILS.
TOOLS.
PUMPS.
WRENCHES.
ETC., ETC.

KELLY HANDLE BARS.

C. B. BARKER & COMPANY, LTD.
93 READE ST., NEW YORK CITY.

"Picks Up Speed on the Grades"

HOLLEY MOTOR CO.,
Bradford, Pa. BALTIMORE, April 30, 1902.

GENTLEMEN:—We have hesitated writing you until we have had time to fully test the motor shipped to Mr. Reese last week. The writer has given this motor a good test over our heavy grades and finds that it does much more than we ever expected of it, seeming to pick up speed on the grades, rather than die out near the top. We have in stock at this time one 3 H. P., one 2½ H. P. and one 1¾ H. P., none of which I would take far on our roads, as they will not go far on our inclines and will stop dead still on a hill.

Machine is very satisfactory, and we have had a number of inquiries lately and feel that this machine will do some good missionary work. Backed with your motor and guarantee we can get business.

Yours very truly,

HOWARD A. FRENCH & CO.,
304 West Baltimore Street, Baltimore, Md.

Immediate Delivery Guaranteed.

HOLLEY MOTOR CO.,

10 Holley Avenue, BRADFORD, PA.

Boston Agency, 243 Columbus Ave. S. H. Brainard, Portland, Ore.
P. J. Dasey Co. Chicago, Ill. Davis-Hunt-Collister Co., Cleveland, Ohio.
Duquesne Cycle Co., Pittsburg, Pa. Haynes Cycle Co., Minneapolis, Minn.
Jos. Holle, San Francisco, Cal. Felix Joswich, St. Paul, Minn.
Special Motor Vehicle Co., Cincinnati, Ohio.

Just a Word.

Why do you suppose we have built up the largest exclusive tire factory in the United States? Because we believe in the reaction of the bicycle industry. Nothing of the nature of a boom—simply a question of another generation taking up the sport.

How do you expect to maintain its interest if you continue to sell cheap, poorly made tires and other parts? We have shown our faith in this propheco by dropping out everything in the nature of cheap tires.

The **Diamond 400 Guaranteed Tire**, at our price is the greatest value ever offered. The **XX, Unguaranteed**, never had an equal. These brands are standard every year. Still you buy makes of tires that have no established record, because they are cheap. Your customers do not seek them and you injure the industry and your own position without considering the case on its merits.

Think it Over.

THE DIAMOND RUBBER COMPANY
AKRON, OHIO.

—BRANCHES:—

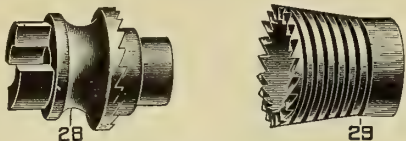
NEW YORK, 1717 Broadway.
NEW YORK, 15 Warren St.
BOSTON, 234 Congress.
BUFFALO, 41 Court St.

PHILADELPHIA, 435 N. Broad St.
CHICAGO, 429-431 Wabash Ave.
SAN FRANCISCO, 8 Beale St.
DENVER, 1562 Broadway.

DETROIT, 310 Woodward Ave.

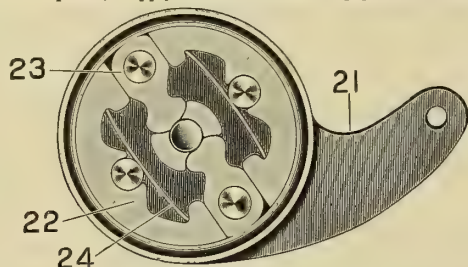
THE PATENTED IMPROVEMENTS —IN THE— Corbin Duplex New Departure COASTER BRAKE

Give the rider advantages he cannot get elsewhere. Here are two of them:



BRAKING CLUTCH.

When the rider back pedals, to apply the brake the teeth engage and *IT CANNOT SLIP.*



BRAKING MECHANISM.

When the brake is applied the two parallel-opening shoes are pressed against the inside of the drum; when released they spring back to place. *NEVER SQUEAK OR BIND.*

SEND FOR CATALOGUE.

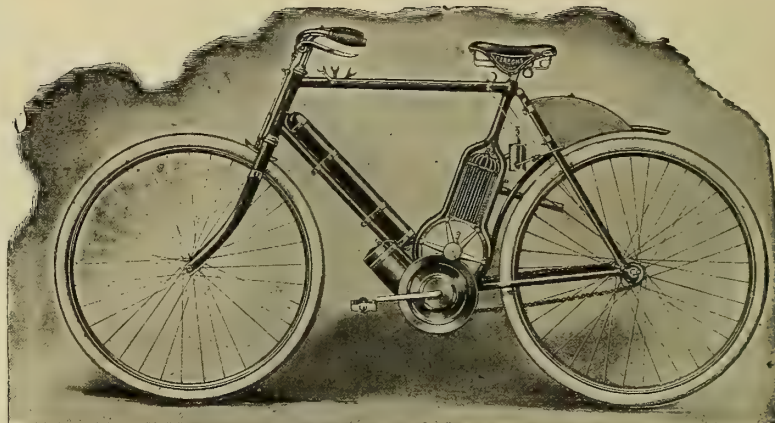
P. & F. CORBIN, New Britain, Conn.

NEW YORK.

CHICAGO.

PHILADELPHIA.

THE BICYCLE



ONE OF ITS RIDERS.

THE ROYAL MOTOR WORKS,
New York City.

WASHINGTON, D. C., May 9th, 1902.

DEAR SIR:—My ROYAL arrived last week and I am pleased with its satisfactory running condition. I rode 54 miles over the road Sunday without a look at the machine. It ran perfectly.

Very truly,
G. GORDON BAILEY.

Where to apply for Catalog or Agency:

ROYAL MOTOR WORKS, 29-33 W. 42d St., New York.

DEALERS

We can make you immediate
shipments in

BICYCLES

that retail at

\$15.00 to \$20.00.

*If you are bothered in getting shipments
from factories, write us for
catalogues and samples.*

PRICES RIGHT.

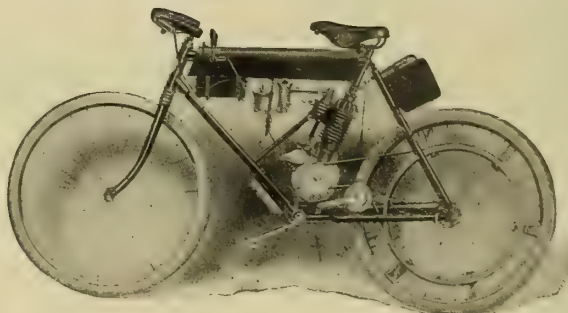
E. P. BLAKE CO., 57-59 SUDBURY ST.

BOSTON, MASS.

THERE ARE
No "Ifs" or "Buts"
IN

The Marsh Guarantee

It assures that the profits made by Marsh Agents
will be Real Profits, not Fancied or Fleeting Ones.



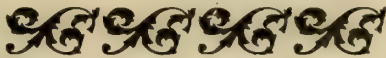
MARSH MOTOR BICYCLE.

We Lift The Burden

of "taking care of the customer" off the agent's
shoulders. We carry it ourselves. That dealers
are realizing the fact and appreciating it, our long
and constantly lengthening list of agents testifies.

ARE YOU ONE OF THE NUMBER?

MOTOR CYCLE MFG. COMPANY, - Brockton, Mass.

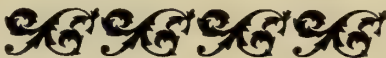


FOR THE FIRST TIME
IN YEARS

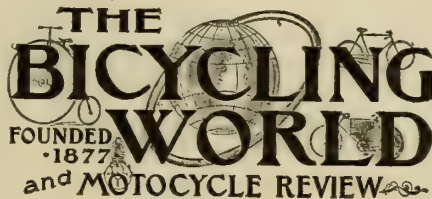
The Exportation of Bicycles

and all that pertains
thereto

is on the increase. America,
England and Germany are
each advancing, Germany be-
ing in front.



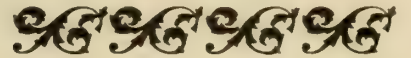
Profiting by Experience



HAS DROPPED SPANISH FROM ITS SPECIAL EXPORT ISSUES

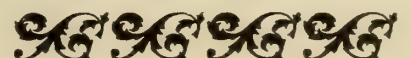
and substituted therefor a
GERMAN EDITION.

Statistics and results of
our own investigations demon-
strate that the Spanish-speaking
field is limited and not particu-
larly prolific. It is sparsely
populated, its weather torrid,
the roads poor. The Teutonic
countries purchase \$10 worth of
American cycle productions to
the Spanish countries' \$1 and
their population, weather and
roads are the antithesis of the
latter territory.



If You Seek to Extend Your Trade

and would share in the up-
ward movement, our three
special export issues—English,
French and German—should
appeal to you with tremendous
force. Rates on request.



**NO CUT-PRICE, MAIL-ORDER OR
SHYSTER ADVERTISING ACCEPTED**



OUR ISSUES ARE DESIGNED TO HELP, NOT HURT THE REAL INTERESTS OF THE AMERICAN TRADE

THE GOODMAN COMPANY, 123-5 Tribune Building, NEW YORK

COOLING HOT WEATHER ARGUMENT.

With the arrival of really warm weather the coaster-brake opens another avenue of profitable endeavor.

We refer to the heralding of the coaster-brake as a means of reducing the discomforts—or perhaps it is better to say, of increasing the pleasure—of cycling during the summer months.

It is not so much the heat as it is physical effort that causes perspiration and discomfort, and that which reduces the exertion is manifestly a contribution to comfort. If in a ride of fifty miles, one is able to coast ten, twelve or fifteen miles, it is not alone that much added comfort, but is rest and perforce refreshment as well; indeed, it is more than this: every mile or half mile or quarter mile coasted is equivalent to being fanned by a more or less cooling zephyr, and cooling zephyrs are what most persons seek during the months of June, July, August and September.

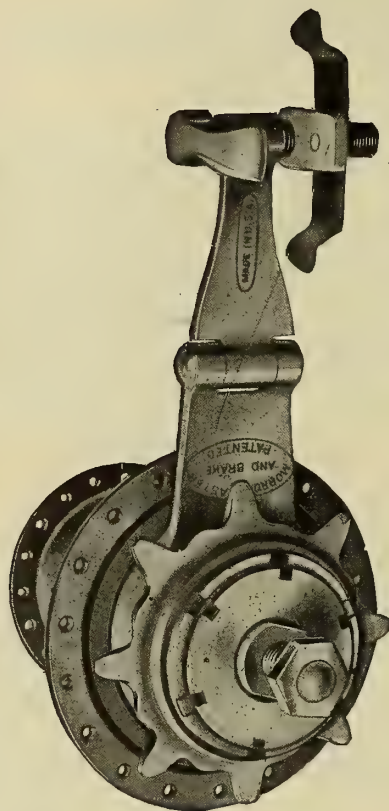
All cyclists know how cooling and refreshing is a coast down hill on a hot day. The rush through space without effort itself creates a breeze. If, then, the coaster-brake is urged on riders as a device that provides a cooling coast whenever and wherever the rider wills, such "hot weather argument" can scarce fail of effect, and should serve to hasten the not distant day when the coaster-brake will be in universal use.—*The Bicycling World*.

The point is well taken and dealers should take it to heart

BUT IT REQUIRES LOTS OF HOT ARGUMENT

even in cool weather to sell some coaster brakes and keep them sold.

THE MORROW



IS THE ONLY ONE

that practically sells itself. The public knows it and trusts it. Purchasers do not have to be "talked into buying it." You never hear one ask: "Is the Morrow as good as the ————?" The question is invariably: "Is it (the other one) as good as the Morrow?" That sums up the situation in a nutshell.

Sell the Morrow and save talk—and trouble.

ECLIPSE MFG. COMPANY, - Elmira, N. Y.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, June 5, 1902.

No. 10

HOUK'S POOL DEEPENS

"Conclusive Proof" of it Abroad, Conclusive Disproof at Home.

For a deal that has been generally repudiated on this side Houk's "coaster brake pool" is apparently causing more stir in English trade circles than anything that has happened in a considerable period.

Despite the denials of the American manufacturers alleged to be concerned in the negotiations, The Cyclist asserts that it has had "conclusive proof that negotiations are going on between Mr. G. W. Houk and the heads of the Universal and Barwest coasters, and the reason why arrangements have not yet come to a head is that the New Departure Co. is asking a higher price for its business than was at first anticipated." It adds that Houk is confident that the deal will be consummated "before very long," and that "the capital of the new combine will be \$1,000,000."

When Frank F. Weston, the manager and active man in the Barwest Coaster Brake Co. was shown this report he repeated his previous denial.

"We are not negotiating with any one," he said. "We are not seeking to sell out, nor are we anxious to sell out. We are well satisfied with our business as it is at present. I don't know what the London reporters consider 'conclusive proof,' but I do know that no one connected with the Barwest company has ever put pen to anything that can be in any way construed as indicating a desire or intention of disposing of its business or of any part of it. We have not given an option on our rights or property, nor been asked to give one; neither have we permitted any one to examine our books with a view to receiving or giving an option of the sort or of any kind."

"I can't imagine how my denial can be made more positive," said Mr. Weston in conclusion, "but if it will serve any purpose I'll reduce it to writing over the company's signature."

Inquiry in several directions developed that when Mr. Houk was in this country, some

six weeks since, still, small suggestions of a pooling of coaster brake interests were set afloat. It is stated that a huge sum of English money that was awaiting investment in such a project was vaguely or significantly referred to, and while none of those spoken to said anything of the sort, the inference is not unfair that they are wasting no time or thought in expectations that the money will materialize.

New Law Affecting Design Patents.

The Patent Office has promulgated the following Congressional amendment to Section 4,929 of the Revised Statutes, relating to design patents:

"Section 4,929. Any person who has invented any new, original and ornamental design for an article of manufacture, not known or used by others in this country before his invention thereof, and not patented or described in any printed publication in this or any foreign country before his invention thereof, or more than two years prior to his application, and not in public use or on sale in this country for more than two years prior to his application, unless the same is proved to have been abandoned, may, upon payment of the fees required by law and other due proceedings had, the same as in cases of inventions or discoveries covered by Section 4,886, obtain a patent therefor."

Calkins Suit Dismissed.

The last has evidently been heard of E. S. Calkins, of Syracuse, N. Y., and his famous bicycle rack patent, which once had the trade, and nearly every one owning a rack, by the ears. The move which it is believed marks the end was taken last week by the Farmers' National Bank, of Utica, which had dismissed the long standing action which Calkins brought against them. No one appeared to oppose the motion discontinuing the case.

Gave the Tourists Advice.

Just before they sailed for Europe last week E. P. Hubbell, of the National Cement and Rubber Co., and F. E. Southard, of the Toledo Metal Wheel Co., were handed this telegram from friends in Toledo:

"If the ship sinks, don't worry. You don't own it."

SWAN SUCCEEDS KELLEY

Rubber Goods Co. Chooses new President and Perforce a new Treasurer.

Alden S. Swan is now the president of the Rubber Goods Mfg. Co. At a meeting of the directors on Thursday last he was chosen to succeed A. L. Kelley, resigned, and of whose resignation no inkling had escaped.

Mr. Swan was previously treasurer of the company. His elevation leaving that office vacant, James B. Taylor was elected to the post.

Mr. Swan is of the Swan & Finch Co., and Mr. Taylor of Talbot J. Taylor & Co.

At the same meeting the directors declared the regular quarterly dividend of 1¾ per cent. on the preferred stock, payable June 16. Officials of the company report that business of the company continues satisfactory, the sales equalling those of 1901.

Eager Offers 50 Percent.

E. G. Eager & Co., the Toledo jobbing house which went into the hands of a receiver, have offered their creditors 50 per cent. of their claims. It is probable that the offer will be accepted. The firm's liabilities are estimated at about \$40,000.

St. Louis Taxes Motorcycles.

St. Louis has ruled that motor bicycles must be licensed, the fee being \$10 each. The license commissioner holds that the fee was due January 1, and has notified all concerned that delinquents on June 1 would be prosecuted.

No Quorum; no Meeting.

The meeting of the directors of the American Cycle Mfg. Co., which was to have been held in this city on Tuesday last, failed to occur. President Bromley came on from Chicago to attend, but a quorum failed to appear.

Bridgman Buys out McKinlay.

M. L. Bridgman, one of New York's veteran and most prominent dealers, has absorbed his around the corner neighbor, H. G. McKinlay, of 306 West Fifty-ninth street. The consideration is not public property.

THE CYCLE INDUSTRY AS DISCLOSED BY THE CENSUS

Figures are for the Years 1890 and 1900 and so Show Only the Youthful and the Settling-Down Stages of the Trade — "Boom Days" not in the Reckoning — Increase of Production in Ten Years 1,142.7 Per Cent.

Washington, D. C., June 2.—Under the direction of S. N. D. North, chief statistician for manufactures of the Twelfth Census, Axel Josephsson, of the Census Office, has prepared an elaborate report on the manufacture of bicycles and tricycles for the census year 1900.

The statistics included in the report were collected, as in the previous census, upon the schedule used for general statistics of manufactures, but owing to the extraordinary development of the bicycle industry during the last decade it was decided to supplement the canvass made by the enumerators and local special agents with a special report, and this is the first time the industry has been made the subject of a special report. Through the courtesy of the Director of the Census the correspondent of the *Bicycling World* is enabled to present the essential features of the report in advance of official publication.

The following table is a comparative summary of the statistics for the cycle industry at the censuses of 1890 and 1900, with the percentages of increase for the decade:

	1900.	1890.	Per cent of increase
Number of establishments ..	312	27	1,055.6
Capital	\$29,783,659	\$2,058,072	1,347.2
Salaried officials, clerks, etc., number ..	2,034	*128	1,489.1
Salaries	\$1,753,235	*\$123,714	1,317.2
Wage-earners, average number	17,525	1,797	875.3
Total wages...	\$8,189,817	\$982,014	734.0
Men, 16 years and over...	16,700	1,747	855.9
Wages	\$7,952,257	\$971,539	718.5
Women, 16 years and over	517	15	3,346.7
Wages	\$175,028	\$3,729	4,593.7
Children, under 16 years	308	35	780.0
Wages	\$62,532	\$6,746	826.9
Miscellaneous expenses	\$2,252,604	\$242,018	830.8
Cost of materials used....	\$16,792,051	\$718,848	2,236.0
Value of products	\$31,915,908	\$2,568,326	1,142.7

*Includes proprietors and firm members, with their salaries; number only reported in 1900.

NUMBER AND VALUE OF DIFFERENT KINDS OF PRODUCTS, WITH PER CENT THAT VALUE OF EACH KIND FORMS OF TOTAL VALUE—1900.

	Number.	Value.	Per cent of total value.
Total .....	.....	\$31,915,908	100.0
Bicycles	1,113,039	22,160,260	69.4
Individual:			
Chainless ..	41,899	1,893,821	5.9
Chain	1,067,524	20,031,600	62.8
Tandem	3,457	201,889	0.6
Motor	159	32,950	0.1
Tricycles	18,110	47,985	0.2
Automobiles ..	56	60,788	0.2
All other products .....	.....	9,646,875	30.2

In addition to the bicycles given as being manufactured in 1900, there was undoubtedly a considerable number manufactured by the 6,328 establishments classified as bicycle and tricycle repair shops, but as the value of their product was not reported in detail, but only the gross sum received for custom work and repairing, statistics as to the number of cycles manufactured by them are not available. The value of the custom

SUMMARY BY STATES—1900.

	United States.	California.	Connecticut.	Illinois.	Indiana.	Massachusetts.	Michigan.
Number of establishments.....	312	4	24	60	19	25	11
Capital	\$29,783,659	\$19,254	\$4,215,399	\$7,694,658	\$2,061,560	\$2,646,498	\$757,021
Salaried officials, clerks, etc., number.....	2,034	.....	263	642	123	139	53
Salaries	\$1,753,235	.....	\$251,091	\$522,477	\$96,996	\$117,242	\$39,643
Wage-earners, average number.....	17,525	19	2,139	4,388	1,481	1,581	311
Total wages.....	\$8,189,817	\$11,080	\$1,150,736	\$2,144,897	\$613,840	\$815,028	\$141,639
Men, 16 years and over, number.....	16,700	19	1,995	4,143	1,352	1,543	294
Wages	\$7,952,257	\$11,080	\$1,107,485	\$2,078,334	\$570,858	\$798,504	\$138,457
Women, 16 years and over, number.....	517	.....	104	104	126	38	17
Wages	\$175,028	.....	\$34,662	\$38,276	\$42,150	\$16,524	\$3,182
Children, under 16 years, number.....	308	.....	40	141	3	.....	.....
Wages	\$62,532	.....	\$8,589	\$28,287	\$832	.....	.....
Miscellaneous expenses.....	\$2,252,604	\$3,144	\$323,629	\$630,442	\$121,260	\$125,076	\$59,485
Cost of materials used.....	\$16,792,051	\$25,470	\$1,720,249	\$4,836,585	\$1,221,786	\$1,307,900	\$345,725
Value of products.....	\$31,915,908	\$47,670	\$3,672,225	\$8,960,421	\$2,115,901	\$2,715,310	\$627,658

	Minnesota.	New Jersey.	New York.	Ohio.	Pennsylvania.	Rhode Island.	Wisconsin.	All other States.*
Number of establishments.....	4	7	66	34	24	4	23	7
Capital	\$38,205	\$204,465	\$3,326,943	\$4,074,576	\$1,550,957	\$24,300	\$2,337,975	\$831,848
Salaried officials, clerks, etc., number.....	2	24	267	209	110	6	160	36
Salaries	\$2,320	\$23,457	\$216,120	\$197,406	\$91,681	\$3,600	\$134,007	\$57,195
Wage-earners, average number.....	47	183	2,103	2,380	947	17	1,572	357
Total wages.....	\$8,440	\$71,343	\$988,052	\$1,017,061	\$431,369	\$6,100	\$625,149	\$165,083
Men, 16 years and over, number.....	47	170	2,032	2,340	891	17	1,500	357
Wages	\$8,440	\$68,185	\$970,043	\$998,218	\$419,958	\$6,100	\$611,512	\$165,083
Women, 16 years and over, number.....	.....	12	46	40	29	.....	1	.....
Wages .....	.....	\$2,972	\$11,009	\$18,843	\$7,280	.....	\$130	.....
Children, under 16 years, number.....	.....	1	25	.....	27	.....	71	.....
Wages .....	.....	\$186	\$7,000	.....	\$4,131	.....	\$13,507	.....
Miscellaneous expenses.....	\$4,673	\$19,548	\$366,501	\$247,332	\$128,931	\$1,309	\$170,266	\$51,008
Cost of materials used.....	\$30,997	\$147,317	\$1,856,065	\$2,251,358	\$1,065,461	\$23,195	\$1,536,592	\$423,351
Value of products.....	\$66,505	\$295,226	\$3,842,020	\$4,099,980	\$1,855,043	\$43,382	\$2,795,236	\$779,331

*Includes establishments distributed as follows: Colorado, 1; Iowa, 1; Kentucky, 1; Maine, 1; Maryland, 1; Nevada, 1; New Hampshire, 1.

work and repairing in these establishments aggregated the large amount of \$13,766,033, which should be taken into consideration in

connection with the value of products of the manufacture of bicycles and tricycles. The following table is a summary of estab-

lishments reporting cycles as a by-product, with the number and value of such products in 1900:

States.	Number of establishments.	CYCLES PRODUCED AS BY-PRODUCTS.										
		Aggre- gate value.	Bicycles.								Tricycles.	
			Total.		Individual.				Tandem.		Number.	Value.
					Chainless.		Chain.					
			Num- ber.	Value.	Num- ber.	Value.	Num- ber.	Value.	Num- ber.	Value.		
The United States.....	16	\$1,553,177	69,811	\$1,529,177	1,030	\$63,508	68,598	\$1,456,989	183	\$8,680	8,000	\$24,000
Illinois	3	447,198	18,600	447,198	.....	.....	18,543	444,633	57	2,565	.....	.....
New York.....	4	141,374	7,792	141,374	1,000	62,792	6,792	78,886	.....	.....	.....	.....
Ohio	4	605,994	26,231	581,994	.....	.....	26,145	577,479	86	4,515	8,000	24,000
All other States*.....	5	358,611	17,188	358,611	30	1,020	17,118	355,991	40	1,600	.....	.....

*Includes establishments distributed as follows: Massachusetts, 1; Michigan, 2; Pennsylvania, 2.

Previous to the decade ending with 1880 the manufacture of cycles (velocipedes) was spasmodic and inconsequential, the only important periods being in 1819 and 1869. In the censuses prior to 1890 the statistics of the manufacture of bicycles were included with those for carriages and wagons. The comparative figures presented cover, therefore, only the period from 1890 to 1900. During this decade, taken as a whole, the industry made extraordinary progress; but the climax was reached about the middle of the period, and since then there has been a decided decline.

The average capital, which in 1890 was \$76,225, had in 1900 increased to \$95,460. This increase in the average capital is a con-

sequence of the crisis at the end of the decade, when many of the smaller concerns were forced out of business. It is to be noted that each of the thirty-five plants belonging to the American Bicycle Co. reported as an individual establishment. The cost of materials used shows the largest percentage of increase. In 1890 it was \$718,848, or 28 per cent of the product, and in 1900 \$16,792,051, or 52.6 per cent. Of this amount \$16,161,638, or 96.2 per cent, was expended for principal materials, and \$630,413, or 3.8 per cent, was expended for fuel, freight, etc. This increase in the proportion between materials and product was largely caused by the keen competition among cycle manufacturers and the attendant decrease in prices of finished products.

The following table presents, by States, the number of active establishments from which returns were received in 1890 and 1900, and the increase during the decade:

States.	1900	1890	Increase
United States.....	312	27	285
New England States.....	55	9	46
Maine	1	.....	1
New Hampshire.....	1	.....	1
Massachusetts	25	7	18
Rhode Island.....	4	.....	4
Connecticut	24	2	22
Middle States.....	98	8	90
New York.....	66	4	62
New Jersey.....	7	1	6
Pennsylvania.....	24	3	21
Maryland	1	.....	1
Southern States.....	1	.....	1
Kentucky	1	.....	1
Central States.....	152	9	143
Ohio	34	2	32
Michigan	11	1	10
Indiana	19	1	18
Illinois	60	5	55
Wisconsin	23	.....	23
Minnesota	4	.....	4
Iowa	1	.....	1
Western States.....	2	.....	2
Nevada	1	.....	1
Colorado	1	.....	1
Pacific States.....	4	1	3
Oregon .....	.....	1	*1
California	4	.....	4

*Decrease.

The above table, which shows the territorial extension of the industry, is worthy of careful perusal. It shows that in 1890 the industry was carried on in 10 States by 27 establishments; in 1900 it had extended into 20 States, with 312 establishments. The greatest gain was shown in New York, where the number of establishments increased from 4 in 1890 to 66 in 1900, of which 7 were established during the census year. Illinois followed next, with an increase of 55, of which 5 were established in the census year, and then Ohio, with a gain of 32.

SUMMARY BY STATES, ARRANGED GEOGRAPHICALLY: 1900.

States.	Establishment.		Capital.		Products.	
	Num-ber.	Per cent of total.	Amount.	Per cent of total.	Value.	Per cent of total.
The United States.....	312	100.0	\$29,783,659	100.0	\$31,915,908	100.0
New England States.....	55	17.6	7,046,197	23.7	6,567,292	20.6
Massachusetts	25	8.0	2,646,498	8.9	2,715,310	8.5
Connecticut	24	7.7	4,215,399	14.2	3,672,225	11.5
¹ All other New England States	6	1.9	184,300	0.6	179,757	0.6
Middle States.....	98	31.4	5,701,613	19.1	6,517,665	20.4
New York.....	66	21.1	3,326,943	11.2	3,842,020	12.0
Pennsylvania	24	7.7	1,550,957	5.2	1,855,043	5.8
² All other Middle States.....	8	2.6	823,713	2.7	820,602	2.6
Central States.....	152	48.7	16,974,995	57.0	18,675,701	58.5
Ohio	34	10.9	4,074,576	13.7	4,099,980	12.8
Michigan	11	3.5	757,021	2.5	627,658	2.0
Indiana	19	6.1	2,061,560	6.9	2,115,901	6.6
Illinois	60	19.2	7,694,658	25.8	8,960,421	28.1
Wisconsin	23	7.4	2,337,975	7.9	2,795,236	8.8
³ All other Central States....	5	1.6	49,205	0.2	76,505	0.2
All other divisions.....	7	2.3	60,854	0.2	155,250	0.5
California	4	1.3	19,254	0.1	47,670	0.2
⁴ All other States.....	3	1.0	41,600	0.1	107,580	0.3

¹Includes establishments distributed as follows: Maine, 1; New Hampshire, 1; Rhode Island, 4.

²Includes establishments distributed as follows: Maryland, 1; New Jersey 7.

³Includes establishments distributed as follows: Iowa, 1; Minnesota, 4.

⁴Includes establishments distributed as follows: Colorado, 1; Kentucky, 1; Nevada, 1.

RIDDEN ALL OVER THE WORLD.

NATIONAL CYCLE MFG. CO.,
Bay City, Mich.

MAY 22, 1902.

GENTLEMEN:—I wish to compliment you upon the superior workmanship displayed in special wheel built for me.

The beautiful little machine arrived day before yesterday, and I could hardly wait until it was uncrated. I placed the machine on exhibition in the store and it attracted all manner of attention. After trying it on the road, find that it is the lightest, easiest running machine I ever owned. This is making a broad statement for the reason that I have had many special wheels built for me in the 18 years that I have been riding. Am very proud of the little wheel, and I wish to thank you for your efforts in designing and building so splendid a machine. Nationals always did run easy, and the riders here are now fully convinced that they are the acme of fine workmanship and bicycle building.

Respectfully, H. K. SMITH.

The purchase of a National is economy in the long run.
The sale of Nationals is a good business proposition.



*TOURING THE AZORE ISLANDS ON A
NATIONAL BICYCLE*

FISK TIRES

Are Sold on Merit Alone.

THEY ARE A TIME TRIED SUCCESS.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED
-1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00
Single Copies [Postage Paid] . . . 10 Cents
Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, JUNE 5, 1902.

What the Census Shows.

Except as showing the growth of the trade from youth to sobered manhood, the results of the twelfth census, as it applies to the cycle industry, is not of special value or import. The pity is that the full facts of the roystering period of its career—the boom years—are lacking, and yet, on second thought, it is small pity; it would be better for the trade of to-day were even the memories of that period obliterated.

The figures developed by the census, however, contain some surprises. That there were half as many as 312 manufacturers remaining in the trade in 1900 will be disputed by many of those who believe they know trade history. The location of some of the "factories" and the value of their productions make plain that the census definition was broad in its scope and far more generous than the trade's own definition.

The particular interest of the report is perhaps the output for 1900 and its value—1,067,524 chain bicycles, valued at \$20,031,600, average of \$18.76 per bicycle, and 41,899

chainless, average value \$45.20. These are long sought figures hitherto impossible of reliable obtainment.

The item "tricycles" is calculated to make the average tradesman blink at first sight, but their average value, less than \$3 each, and the States whence they came, disclose more of those fine distinctions common to the census and uncommon to the trade itself. They are merely those children's tricycles which the average man classes as "toys."

Export Effort and Export Bait.

It is really remarkable how many sins are committed in the guise of export effort. In some instances the sins are born of ignorance or inexperience, in others of cupidity aforethought. "Foreign trade" has an attractive sound to the average merchant. Usually he is inclined to listen to proposals that have for their end the attraction of business from abroad. Sharpers with proposals of the sort have grown fat at his expense. But the merchant is wise, and is growing wiser. He no longer accepts every bait that is dangled before him. He is disposed to discriminate—to distinguish the false from the true. He is now able to put two and two together and learn "what's what."

If, for instance, he would sell bicycles abroad, a glance at the table of statistics will tell him where bicycles are being purchased in greatest quantities, and where the most likely markets lie. He can thus tell whether printed matter in French or Spanish or German or Esquimaux are best calculated to bring returns. Indeed, the bicycle maker's own thought will tell him that populous temperate zones, inhabited by active peoples and threaded by rideable roads, promise infinitely better returns than torrid or frigid countries where roads and people are the reverse of those in temperate climes.

There are those who would claim the merchants' attention and patronage who defy these plainly apparent conditions. There are those who would circulate their printed matter from lists that are obsolete, and that can be purchased by any Tom, Dick or Harry willing to pay the price. There are those who make a business of compiling such lists of foreign addresses and of selling them to all comers. They are made up indiscriminately. They include all trades and conditions of tradesmen. They are urged on the man who sells fans or snow shovels as earnestly as they are urged on the man who sells bicycles or automobiles. They are like the "patent medicines"—"good for every ill"

or business. On the hit or miss plan they are at least of speculative value. But doing business on that plan long since proved to be attractive or profitable. It usually turns out wasted effort.

All these things were considered when the Bicycling World's export issues were undertaken. With experience to guide us we were able to properly plan to reach the countries and peoples that are and will be interested, and our circulation lists were gathered at our own expense and by our own efforts. Every paper mailed goes to not a merchant known to be interested in the sale of bicycles. We aim to reach probable purchasers, not mere hit-or-miss possibilities.

Motor Bicycles and the Future.

Writers and students have long lamented the drain on the rural population that went to make up the larger cities, and with the strains and excitements of the latter have seen certain signs of the degeneracy of the race. It has been shown, according to census figures, that those rural sections with the greatest railroad facilities were the greatest to suffer, and it has been argued from this that the railroad has been the one cause to draw the country into the city.

The argument is superficial, however, the cause lying deeper than a time table. How deep depended largely on the character of the local soil; the deeper the mud the more apparent the cause.

For the last two decades the farmers have lamented that their boys sought the fascinations of the city as soon as they were beyond the parental control; that this necessitated greater expense in farming, as hired help had to be employed, and that the city has so many charms that even hired help was hard to get, and then only at an advanced figure.

If the farmers had looked for the cause and once it was found, or if they had listened to the voice of reason, they would have known that the poor condition of the roads for many months so isolated the younger element that its vitality was becoming sapped and that the magnet of the city was only the contact which is so essential to youth. Taking the bull by the horns, the farmers would have built good roads and paid for them twice over in the saving in the cost of hired help.

That the love for the city is artificial, and the love for the country is natural, is amply evidenced in any large city in the land by its suburbs. These suburbs are largely made

possible and have had their phenomenal increase because of the trolley, the telephone and the bicycle, and to these will be added yet another—the motor bicycle, which is destined to become a factor of larger importance in the future domiciliary spreading of the people. But wherever these suburban out-lets may be, it is always notable that those which are rapidly built up are those in which the sponsors have first improved with roads which are passable in all seasons.

Wherever these conditions exist the modern means of locomotion and communication have nourished a returning love of country life by rendering it possible for people of moderate means, who from either calling or disposition desire to live within reach of a city or town, to have such a residence. This of itself is an encouraging sign, for the choice of a suburban home is rather one of preference than of economy.

Whatever draws people out into the open, arresting the set toward the stifling closeness of block and tenement, is obviously healthful. Obviously, too, this tendency points toward new possibilities of readjustment. The substitution of the feeling of nearness, all that is really vital, for the physical fact is evidence of the birth of a new social force. Its working may not be markedly seen in the strictly rural population, but its presence can be already detected.

For a number of years it has been the formula of description in noting the influences of settlement and civilization to speak of the age of the railroad, the steamship and the telegraph. But there has been a passing away of old things, and perhaps without our recognition a coming of newer conditions that call for a new apothegm. In ten years we shall see a complete change in our methods of living, and the new formula will be the trolley, the telephone and the motor bicycle.

Clubmen and Coaster Brakes.

One of the remarkable features of the coaster brake situation is the disdain with which the device itself is viewed by the average clubman and century crank. If a census were taken of the cycling clubs it would be found, we think, that not one member in ten is possessed of a coaster brake.

Of course, cycling clubs do not now exert the strength or influence that once was the case, but the fact does not alter the peculiarity of the situation. Ask the clubman for the reasons for his attitude, and the most

formidable objection he can advance is an "I don't believe in coaster brakes." Occasionally one will wave the added-friction bugaboo, but the "I don't believe in it" is usually the most succinct reason that is trotted out.

Time, of course, will alter the state of affairs, but the clubman's attitude illustrates the perverse side of human nature. Although, in theory at least, the most active of road riders, the very class to whom ipse facto the coaster brake should appeal most strongly, and whose labor it would lessen and whose energies it would conserve in greatest measure, are disposed to shut their eyes to its benefits and incline themselves to shun it, or at least to scorn it.

But the clubman and the century crank will awaken in due course. For their own sakes, the awakening has been too long deferred. They are missing many miles of unaccustomed pleasure and refreshing rest that may as well be theirs.

Looking the Right way.

The fierce light of publicity has its penalties as well as its rewards. It is a wild, intoxicating dance which is indulged in for the nonce, but the dancers have to pay the piper in the end, just as surely as there is an end.

Few movements of recent years were ever carried further than that which had for its subject cycling. It began modestly, and for many years it grew steadily, but in studied moderation that argued well for its future. But it struck its gait at last, and then ensued what may without exaggeration be termed an orgy, a very saturnalia, pursued with a frankness, an unbridled license that carried everything before it. That a reaction was certain to set in, and that speedily, was as certain as the coming of the dawn.

Since then, through the long, cheerless years that followed the wild debauch, we have clung to the habit of measuring the things of to-day by the standards then set up.

Because the world is no longer stark, raving crazy over cycles we are too apt to heave a sigh, put on a despondent air and drop into reminiscences of the good old days. That expenses to-day are but a tithe of what they were in 1896 is a fact quite lost sight of in our regret that sales are no longer at highwater mark.

"There's no use crying over spilled milk," remarked that bunch of nerves and vitality, H. B. Fullerton, whose shrewd diagnosis of

the cycling situation rings clear and true, "the time has gone by when the world could think of wheeling and nothing but wheeling fifteen hours out of the twenty-four. It has other things to turn to, duties and pleasures both. Henceforth cycling must content itself with a more modest position than it occupied in the day of its glory.

"But that does not alter the fact that cycling is and will continue to be indulged in by an enormous number of people," he went on. "Why, there are to-day more bicycles in existence, yes, in use, than there were in the palmiest days of the 'boom.'

"Never a family goes to the seashore or the country without taking at least one bicycle. Usually it is one to each member of the family. Even the babies are accounted for in this way, whether they use them or not; they are there. But there is this difference: Nowadays bicycling is a means to an end, rather than an end itself."

Never were truer words spoken. The present season witnesses a big revival in pleasure riding. The crowds of wheelmen and wheelwomen become larger as the season advances, and the popular riding districts are thronged as they never were since the palmy days of three or four years ago. This new found enthusiasm is real, is spontaneous; but it is also exercised in moderation, and will undoubtedly be well and long sustained.

Back of it, however, is a steady, if somewhat slow, growth in the number of users. Fewer and fewer machines are being laid aside, and new riders are constantly coming into the fold.

The dealers and the trade generally know this; and know, too, if they give the matter consideration, that there is still a field for missionary work. But the thoughts of the days of huge sales and fabulous profits dazzle their eyes and dwarf the opportunity presented to them. Some day they will wake up, cast from them forever the thought of the past, and turn their faces forward, confident that there are almost as good fish in the cycling sea as were ever caught, and then earn a well merited reward.

Next to fighting a head wind and climbing a hill, there is nothing connected with cycling so exhausting and energy consuming as back pedalling downhill. The saving of such energy and avoiding such exhaustion makes the coaster brake as precious as aid and as much a boon as its mere coasting properties.

Orients Win Everywhere.



MERIT WILL TELL.



First, Second and Third Place in the Great Irvington-Milburn Road Race.

Wyckoff, on an Orient Motor Bicycle, wins the 10-mile motor race.

The Orient Motor Bicycle also wins first place in the great motor races at Bexhill, London, England.

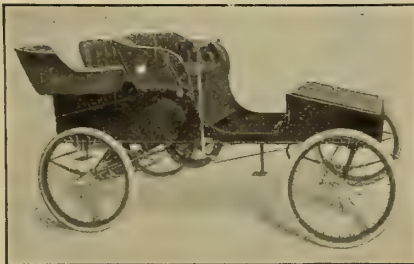
At Staten Island Speed Contest the Orient 3-H. P. Motor Bicycle makes a straightaway mile in 1:10 2-5.

SUCH RECORDS AS THESE NEED NO COMMENT.

WALTHAM MFG. COMPANY, WALTHAM, MASS.

BUFFALO Tonneau

MODERN GASOLINE CAR.



Model 15. Price, \$900.

NOW DELIVERING.

DISTINCTIVE FEATURES:

MOTOR—Six-horse power.

TREAD—Standard 4 ft. 8½ in.

CAPACITY—Carries four persons.

ROADS—Good over any.

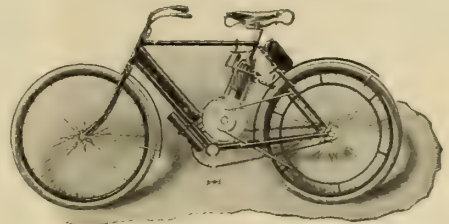
HILLS—Climbs them all.

SPEED—25 miles per hour.

COMFORT—Long wheel base,
easy running.


THOMAS Auto-Bi

THE ORIGINAL MOTOR CYCLE.



Model 4. Price, \$175.

SHIPPING DAILY.

 EVERY VEHICLE EQUIPPED WITH E. R. THOMAS WORLD'S RECORD MOTORS.

All correspondence must be addressed to factory, 1200 NIAGARA STREET.

BUFFALO AUTOMOBILE & AUTO-BI CO., - BUFFALO.

SYRACUSE MAN WINS

Stranger Wins Fourteenth Irvington-Millburn—Schlee Keeps Time Prize at Home.

Had a spectator not projected himself on the course at an inopportune moment, there would have been two hair-raising finishes in the Irvington-Millburn 25-mile road race on Decoration Day. As it was there was a rare struggle between three men for first place, inches only separating them at the tape.

The fight for time prize would have been as close had not the spectator in question caused a spill fifty yards from the line, bringing down five men. Charles Schlee, of Newark, N. J., who was leading the bunch, escaped the mix-up, and secured the plum, doing the distance in 1:07:42, breaking the seven-year-old record of 1:08:47. Van Velsor, his fellow scratchman and most dangerous opponent, was among the unfortunates, and ran across the tape dragging his wheel after him. He was thus able to account for second time prize.

The winner of the historic race was Samuel La Voice, a railroad switchman from Syracuse, N. Y., who in a driving finish out-sprinted James Zanes and Otto E. Wolf. The three jumped out of a bunch of eight 400 yards from home and fought it out to the tape.

Of 109 entries 101 started, the following being the order of the first 25 men:

Samuel La Voice, Syracuse, handicap 3m. 30s.; time, 1h. 12m. 50c. James Zanes, Newark, handicap 5m.; time, 1h. 12m. 21s. Otto E. Wolf, Bloomfield, handicap 7m.; time, 1h. 14m. 22s. Robert Meyers, Paterson, handicap 5m. 30s.; time, 1h. 12m. 54s. Albert Widman, Newark, handicap 6m. 30s.; time, 1h. 13m. 55s. Harry Chapman, Elizabeth, handicap 6m.; time, 1h. 13m. 26s. Daniel O'Neill, Newark, handicap 5m. 30s.; time, 1h. 13m. 5s. W. H. Boyden, Newark, handicap 6m.; time, 1h. 13m. 36s. W. H. Caldwell, New York, handicap 5m. 30s.; time, 1h. 13m. 7s. U. Wilkens, Jr., New York, handicap 5m.; time, 1h. 12m. 40s. Charles Schlee, Newark, scratch; time, 1h. 7m. 42s. Albert L. Cahn, New York, handicap 2m.; time, 1h. 9m. 45s. Jerome Steiner, Hicksville, handicap 5m.; time, 1h. 12m. 46s. Karl Larson, Vailsburg, handicap 6m.; time, 1h. 13m. 47s. Edgar Van Velsor, Oyster Bay, scratch; time, 1h. 8m. Charles D. Hughes, South Orange, handicap 4m.; time, 1h. 12. 2s. John Conklin, Millburn, handicap 4m.; time, 1h. 12m. 3s. Joseph S. Reynolds, Brooklyn, handicap 4m.; time, 1h. 12m. 15s. Andrew Chubb, Jr., Bloomfield, handicap 4m.; time, 1h. 12m. 25c. Otto Hawbacker, Watseong, handicap 3m.; time, 1h. 12m. 25s. Frank Swartz, Newark, handicap 6m. 30s.; time, 1h. 15m. 58s. Edward J. Abernethy, Hamilton, handicap 4m. 30s.; time, 1h. 15m. G. H. Davis, Yonkers, handicap 5m. 30s.; time, 1h. 16m. 2s. W. F. Whittkop, Millburn, handicap 5m.; time, 1h. 15m. 52s. Edward Meyers, Paterson, handicap 3m.; time, 1h. 14m. 3s.

La Voice rode a wheel geared to 92, made by a Syracuse repairman, Schlee a Regal racer, also made in Syracuse, by the Bretz Cycle Mfg. Co.

Metz's Marvelous Mile.

The motor bicycle gave a good account of itself in the speed trials conducted by the Automobile Club of America on Staten Island on Saturday last.

Ridden by Charles H. Metz, a 3¼ horsepower Orient motor bicycle, the only one of four entries in the class that put in an appearance, covered the straightaway mile in 1 minute 10.25 seconds, cutting 24.35 seconds off the previous record, made by Robert Atkinson on the Coney Island Boulevard in November last. The kilometre, which also was timed, was reached in 43.35 seconds. Metz's machine was minus its muffler.

His performance was quite an eye opener to the spectators. Of the twenty-six vehicles that made trials before one of them crashed into the crowd, killing two persons and injuring five others, but one surpassed Metz's record, and that one was a big 60 horsepower Mors racing car, which did 55.15. The nearest approach to Metz's time was 1:12, by a 10 horsepower steam carriage.

The timing was undoubtedly the most scientific work yet done in cycle racing of any kind. The apparatus was made up of three duplicate devices, in each of which was placed a stop watch, and all in electric circuit. As the bicycle crossed the starting line—with a flying start of something less than a mile—the official in charge at that point pressed a button, which started all three watches in unison. At the finish the pressure of a button stopped the watches. The watches were at the start, the kilometre and the mile.

First Motor Bicycle Road Race.

The first motor bicycle road race ever run in this country was the ten-mile event which served as a "curtain raiser" for the Irvington-Millburn "25" on Decoration Day. It was a tame affair. Six men started and five finished, one sustaining a puncture.

They crossed the line in this order: L. J. Wyckoff, Newark (Orient), 18 minutes 17 seconds; W. T. Green, Newark (Orient), 19 minutes 18½ seconds; G. W. Condon, Newark (Orient), 22 minutes 3 seconds; L. C. Bennett, East Orange (Holley), 22 minutes 4 seconds; William Mueller, New York (Keuerleber), 26 minutes 2½ seconds.

The race was limited to motors of 2¼-inch bore. Wyckoff refused to submit his for measurement, and was disqualified. All mufflers were removed. The men got under way in the order named, and the race thereafter was merely a procession.

New York Motocyclists Organize.

The Motor Cycle Club of New York was brought into being on Wednesday of last week, May 28, with R. G. Betts in the chair. Some twenty members were enrolled, and E. J. Willis, the well known jobber, chosen president. The other officers elected were as follows: E. Lincoln Ferguson, vice-president; H. Bendix, secretary; John Glade, treasurer; F. E. Moskovics, captain; Henry Allman, lieutenant, and M. E. Toppel and Willi R. Pitman, governors.

FIVE ALPHAS SURVIVED

Fourteen Undertook the Trip but Dogs, Belts and Bad Roads Thinned the Ranks.

Although but five of the fourteen starters survived the three days tour of the Alpha-Motor Cycle Club, of New York—the first organized event of the sort undertaken on this side of the water—the long roll of "missing" was not, generally speaking, due to shortcomings of the motor bicycles. The survivors covered 316 miles, or better than 100 miles per day. They left Jersey City at 8:30 a. m. on Decoration Day, spent the first night in Trenton, and the second in Atlantic City. Those who started were as follows: Henry P. Macrery, George A. Smith, Captain George M. Fisher, Jr., William E. Fontaine, A. P. Palmer, A. Van Iderstine, Surgeon Henry A. Baker, John Finnegan and H. J. Wehman, on Orions; Lieutenant Charles G. Arnold on a Holley; George P. Jenkins, on a Marsh; E. J. Willis and E. W. Worrall on Merkels, and P. J. O'Grady on the "Red Devil" of his own make, which lasted until Trenton.

Palmer became hopelessly lost in Newark, and quit at that point, and soon after Wehman ran into a dog. Result, a dead dog and a wrecked bicycle. Willis and Worrell came into New Brunswick towing Jenkins, who was in trouble, and who took the train for Philadelphia. From Hammonton to Atlantic City the party stretched the legal limit, Mecredy being first to arrive a half hour ahead of Worrell; Smith, Willis, Arnold and Fisher came in as named. During the night dreams of vile roads already past and of more to come decided all save Fisher, Willis, Mecrery, Worrell and Arnold to take the train home. The "faithful five" rode 40 miles over horrible roads to Barnegat for breakfast, and pushed on through Toms River (where Worrell placed a dog to his credit), Lakewood and Como, to Asbury Park (90 miles), reaching there in time for lunch. The trip home was made via Long Branch, Red Bank, Middletown, Matawan, New Brunswick, Perth Amboy and Staten Island, the ride across the island being in darkness, a day's ride of more than 150 miles. Five of the fourteen suffered bent cranks, but aside from this and belt troubles comparatively no difficulties were experienced. Indeed, Macrery summed up things in this language:

"It was a long ride, full of obstacles, but thoroughly enjoyed by all. The five who finished are willing to do it again.

"As to the motor bicycles, there is nothing to touch them. There was not a machine that gave trouble from the engine, carburetter or any of its parts. The only difficulty was the belts, and all united in advocating the flat belt from ½ to 1 and 1¼ inch."

To drive a nail home you must hit it on the head and keep hitting. The same rule applies in business.

GROPING IN THE DARK

Sometimes it has Value as Shown in the Experiences of Two Motocyclists.

At a recent gathering of motor bicycle enthusiasts some one told of a peculiar experience with a mixer, when everybody present wanted to relate a story. A curious feature of one of the stories was that it was duplicated by the same experience related in a foreign motor journal. The story as told in the journal is as follows:

"One of the most puzzling breakdowns it is possible to imagine came under the notice of a member of our staff just recently. A friend of his who possesses a front driving Werner, and which he has had for two seasons, had been greatly troubled for about a fortnight through the motor breaking down with strange regularity every time he took it out for a run.

"After three or four miles running at a moderate speed it began to miss fire, the explosions getting feebler and feebler, till it pulled up altogether. To get it to start again was impossible, and, of course, meant pedalling it home again.

"A systematic overhaul of all the details was made, including new platins on the contact breaker. A new plug was obtained—namely, a genuine De Dion—to try against the E. I. C. plug, then, to be absolutely sure about the current, even a new accumulator was bought, although the old one retained its charge fairly well, valves were thoroughly reground and perfectly new petrol obtained—at least, it was motor spirit of the correct density.

"The coil gave a very strong spark, so it was hard to see what could be at fault. However, it was a case of "no go." With exasperating regularity the motor pulled up at the third or fourth mile at every trial.

"Curiously enough, although no efforts would induce it to start even some hours after stopping, a night's rest seemed to enable it to recover and run a short distance. This state of affairs was most annoying, when it happened that by the merest chance the true reason for all the trouble was discovered.

"The writer was giving the machine a short run later on in the evening, after working hard at it for an hour making adjustments, etc. Nothing better, however, could be got out of it than a sort of jog-trot speed, and, true to its reputation, it shortly began to miss fire and slow up. On dismounting the wire was first of all disconnected from the sparking plug and just tried against the frame while the motor was rotated. The spark appeared very strong indeed in the darkness.

"A startling fact now showed itself—namely, when the high tension wire was held so far off the handlebar that the spark could not jump across, the covering of the wire—where it passes along the petrol tank—be-

came aglow with an electric discharge of a blue color, and at the same time emitted a curious hissing and crackling noise, and in places also sparks could be seen.

"In a few words, then, what had happened was that the thick rubber insulation had deteriorated, got hard and cracked, and the high tension current simply short circuited on the frame through the insulation as soon as the temperature and compression of the gases became too much for it to jump the points.

"When all was quite cold and there was no stress on the rubber insulation the sparking would take place across the points of the plug, which accounts for the machine running for a few miles. A brand new cable was put on the coil next day, when the whole trouble disappeared.

"It would, of course, have been impossible to discover this breakdown of the insulation



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

in the daylight; hence any rider having trouble with his spark would do well to test his cable in the darkness. If the insulation is quite good no discharge to the frame should take place. An examination of the cable that had given all the trouble showed that it had really 'perished.'

"If there is any sign of cracking it would be as well to at once replace the cable. This is more likely to occur at places where the cable is taped rigidly to some part of the frame; keeping the machine in a very warm and dry atmosphere also tends to make the insulation hard and brittle."

It was the general opinion of those present that the thing is one of those small puzzles that seem to stump some people for all time, while others either have the necessary intuition which finds things or else the peculiar luck as related in the story. It shows the differences that can come while "groping in the dark."

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

UTILITY VIEW POINTS

The Future Place of the Motor Bicycle in General Affairs of the World.

"From a utilitarian point of view the motor bicycle will fill a greater place in the world than the present day bicycle," was the greeting recently given a Bicycling World man as he met an old time cyclist, who "is thinking it over."

Continuing, he said: "It will be a great time saver; enable travellers to get around expeditiously and economically, and will always be ready for use. There will be very little expense in stabling, little labor required to keep a machine in good order; and if the owner is of a mechanical turn of mind, any little faults which may show themselves may easily be remedied.

"The cost to run a machine is a fifth of a cent a mile. This is no more than it would cost the average cyclist for lubrication and refreshment in the same distance. With reasonable care the wear and tear expenses amount to very little; and there is always the compensation of being able to drive your own engine, being your own controller, and doing practically as you please on the streets and roads, providing, of course, that you always have a respectful regard for the law of the land.

"Many are of the opinion that motor bicycles will never become popular because of vibration, noise, grease and dirt, all qualities which are objectionable, but at present inseparable from vehicles of any description. Those persons who fear to soil their fingers or expect to appear fit at the dinner table after an outing would better eschew the motor vehicles of all descriptions. Their places are on pedestals in glass cases.

"No one will worry much about what society does or leaves undone. A majority of the members of the 'aristocracy' would not drive horses, motor carriages or motor cycles, or appear with polished shoes if they had to rely on their own exertions to turn them out in presentable shape or care for them after using. The 'man' attends to those things, if the aristocrat chooses to use one.

"On the country roads in France and England one may see motor cycles driven by men who are not more dirty, greasy, or in any other way less comfortable or presentable than drivers of other vehicles. Vibration, perhaps, cannot be avoided. It does not compare with that endured by the heroes who rode solid tired machines years ago.

"It seems absurd that the objectionable features of motor bicycling will deter the average cyclist. Experience has already been had with punctured tires, bearings and chains. Motor cycles can be used by gentlemen who are no less gentlemen because they dispense with the services of a 'man' and give personal attention to their machines," was his final summing up as he waved his hand and took a trolley car uptown.

IRVINGTON-MILBURN ROAD RACE

CHARLES SCHLEE, of Newark, N. J., on a 19-pound

REGAL RACER

won **FIRST TIME PRIZE** from scratch in 1 hour, 7 minutes, 42 seconds.

breaking record for course by 1 minute and 5 seconds.

MR. SCHLEE'S MOUNT WAS A REGULAR REGAL RACER TAKEN FROM STOCK.



Stearns Bicycle Agency

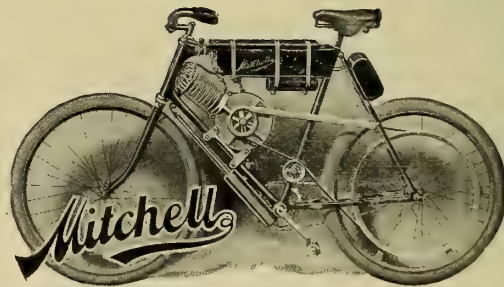
General Distributors,

SYRACUSE, N. Y.

EVERYBODY KNOWS THAT

Mitchell MOTOR BICYCLES

ARE { BEYOND THE EXPERIMENTAL STAGE.
BEING MANUFACTURED AND SHIPPED EVERYWHERE.
SHIPPED PROMPTLY ON RECEIPT OF ORDER.
GIVING THE BEST OF SATISFACTION.



The Mitchell is not a racing machine, but was ruled out of THE IRVINGTON-MILBURN DECORATION DAY ROAD RACE.

You can order experimental motor bicycles and name your own price, but when it comes to getting them delivered — — — — — your feelings are best expressed in big black dashes and lots of them.

STILL THEY COME.

The customers whose letters we print below and hundreds of others, having pinned their faith to the Mitchell Motor Bicycle, are writing us to show their appreciation of the PROMPTNESS with which their orders were filled and of the POWER, SPEED, SIMPLICITY, BEAUTY AND RELIABILITY OF THEIR MACHINE:

JOHN E. O'NEIL.
Cycle Agency, No. 444 Essex Street.
LAWRENCE, MASS., MAY 17, 1902.

MR. GEO. S. ATWATER,
Boston Mass.
DEAR SIR:—I write to let you know that my Mitchell Motor Bicycle came along in good shape and remarkable quick delivery. I am perfectly satisfied and consider my money well spent. It does the work in good shape and does all you claimed for it.

Yours truly,
JOHN E. O'NEIL.

J. O. BURDSALL.
WISCONSIN WHEEL WORKS,
Racine Junction, Wis.
LOCKLAND, OHIO, MAY 24, 1902.

GENTLEMEN:—I wish to inform you that I have given the Mitchell Motor Bicycle a severe test, over the roads around Cincinnati, which are very hilly. I have been a bicycle rider for more than twenty years, and never realized the true pleasure of riding until I rode a Mitchell Motor Bicycle. The machine runs as nearly perfect as possible and is easily handled on the road. All I can say of it is that I am perfectly satisfied with it. With best wishes for your success, I am,
Yours respectfully,
J. O. BURDSALL.

A. A. HANSEN, Cycle House.
WISCONSIN WHEEL WORKS,
Racine Junction, Wis.
MINNEAPOLIS, MINN., MAY 23, 1902.

DEAR SIR:—I think I broke a record myself yesterday. I went after a prospective customer and landed him, and it took me just exactly thirty minutes to talk business with him and uncrate a machine and give a few moments instruction, and away he went home on a Mitchell Motor Bicycle. He came down to the shop this morning, "O K" and immediately started off for another spin—the most satisfied person on earth. His name is E. W. FARR, and is connected with the Minneapolis Paper Co., and I have others in sight.

Very truly yours,
A. A. HANSEN.

WISCONSIN WHEEL WORKS.
Racine Wis.
CHEBOYGAN, MICH., MAY 21, 1902.

GENTLEMEN:—Received the wheel Monday night. Must say that it is all I expected and more. Took it out first thing after getting up Tuesday morning and rode it all over town before breakfast. Your instructions were so plain that I understood its working before the wheel arrived.

Yours respectfully,
A. L. ROSE.

—THE— Mitchell Motorcycle Primer.

32 pages of valuable information to any motorcyclist.
Sent, postpaid, on receipt of 10 cents.

Manufactured by WISCONSIN WHEEL WORKS, Box W, Racine, Wis.

See samples at following General Agencies:—HENRY VAN ARSDALE, 7 & 9 Warren Street, New York City; GEO. S. ATWATER, No. 8 Merri-mac Street, Boston; WHIPPLE CYCLE COMPANY, No. 260 West Jackson Boulevard, Chicago; MITCHELL, LEWIS & STAVEL CO., PORT LAND, ORE.; SMITH & ZIMMER, MINNEAPOLIS, MINN.; H. G. FITLER, 204 North Broad Street, PHILADELPHIA; J. H. ISHAM, 542 Ellicott Square, BUFFALO, N. Y.; RAWLENS IMPLEMENT CO., 290 South Charles Street, BALTIMORE; COLUMBUS AUTOMOBILE EXCHANGE, BOSTON; HARRY GEER, 1017 Pine Street, ST. LOUIS; THE BRUNETTE CO., SAN JOSE, CAL., Coast Agents.

DUNLOP'S OWN STORY

**For the First Time he Tells the Full Story
of the Inception and Invention of the
Pneumatic Tire—His Son's
Important Influence.**

Despite the revolutionizing influences and effects of the pneumatic tire, and despite the world-wide fame of its inventor, J. B. Dunlop, by one of those incomprehensible lapses the full and authentic story of the tire and its inception by Mr. Dunlop himself had been permitted until now to remain untold, or, at any rate, unprinted. The Cyclist recently undertook to fill the void, and the story as written by one of Mr. Dunlop's personal friends, M. McD. Bodkin, K. C., forms an interesting, important and necessary contribution to cycling history.

To Scotland belongs the credit of the great invention, for Mr. Dunlop was born on February 5, 1840, at Draghom, Ayrshire.

At twenty years of age Dunlop took out his degree as a veterinary surgeon, and in 1867 he settled down in Belfast, where for many years he enjoyed a large and lucrative practice. It is his boast that in a single year by persuasive and conciliatory methods he succeeded in completely stamping out pleuro-pneumonia in his district—an achievement of which he seems to me to be more proud than of the invention of the pneumatic tire, says Mr. Bodkin.

Mr. Dunlop describes himself as a man with a keen eye for trifles—a microscopic mind which even the most trivial details cannot escape. His attention was attracted by a small, old fashioned side-steered tricycle which his son Johnny—then a boy of eight years old—used to ride. He noticed that the solid rubbers cut up the ground in the yard, especially when soft from the recent rains. He thought he could devise something that would press less severely on its surface.

"But," some one objected when he spoke of this notion, "what matter about the ground? It is the rider we have to think about."

"Whatever," Dunlop retorted, "is hard on the ground is hard on the rider; whatever is light on the ground is easy for the rider."

In that simple formula we have the germ of the idea of the pneumatic tire. What Dunlop desired was a broader tire, lighter and more elastic than rubber, that would glide more easily and with less resistance over the ground, and compressed air suggested itself to his mind as the necessary material.

But Mr. Dunlop was a hard working man, busy and successful in his profession, and it is very probable that the invention of the age would never have taken practical form but for one apparently trivial circumstance.

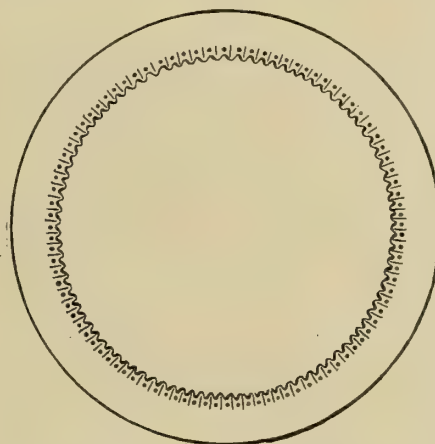
"One day," he said, unguardedly, to his eight-year-old boy Johnny, "some time I will make you wheels that will be faster than any tricycle in town."

That settled it. With a child's unforgettable and untiring persistency the boy pressed in season and out of season for the fulfilment of the promise. So Mr. Dunlop had to find or make time to redeem it.

It was a very primitive beginning. He took a piece of thick plank, sawed off a square bit, cut away the four corners and gradually and with infinite patience converted it into a wheel. Then came the construction of the pneumatic tire.

"I was accustomed," said Mr. Dunlop, "to work with rubber. I made my own veterinary gloves and other little rubber articles I required in my profession. That was lucky, for I had not only to invent everything, but at first to make everything for myself.

"There was no tubing to be had of the kind I wanted, so I got a sheet of rubber and some solution and made a tube for myself. The great secret of such work which puncture repairers even yet cannot always understand is to get the rubber quite clean



THE FIRST PNEUMATIC TIRE.
From a Drawing By J. B. Dunlop Himself.

and to rub the solution hard in. I did both, and presently I had an air-tight tube around my wheel with a bit of the tubing of a baby's feeding bottle sticking out for a valve.

"But the pneumatic tire was not yet complete. If I had pumped air into it in that condition it would have blown out like a balloon till it burst. I appealed to my wife. Fortunately she had exactly what I wanted. She got me a strip of an old dress of fine gray linen that had been fashionable in its day. A strip of this linen I pressed over the rubber tube and tacked it neatly and tightly to the wooden wheel. Then I pumped the air in with my boy's football pump, folded and tied the end of the bit of feeding bottle tubing, and so the first pneumatic tire the world has ever seen was made and inflated."

The test was as primitive as the model. Mr. Dunlop detached the front wheel from the boy's tricycle as a trial horse, and give the two, so to speak, a private gallop in his long veterinary yard, with only the stablemen as spectators. The rubber shod wheel, though thrown with its full force, faltered and fell before three-quarters of the rough ground had been accomplished. The pneumatic tired wheel ran off the course the first

trial, and dashed with great force into a side wall. But on the second trial it covered the whole distance at a fine pace, struck the wall at the far end, and came rolling back almost to the starting point.

Its superiority was incontestably demonstrated. The stablemen spectators babbled of its triumph. Mr. Dunlop, they declared, had made a wheel which ran of its own accord; and the further it went the faster it ran.

After that, of course, Mr. Dunlop had no peace from his son Johnny until he set about the reform of the child's tricycle.

The work was done by fits and starts in a spare bedroom, with the eager assistance of the boy, as the pressure of professional business allowed.

For tire rim he procured a lath of American elm, smooth and pliant, and three inches wide. The broad wooden rim was lashed to the narrow iron rim of the tricycle by copper wire passed through holdfasts of the same material, projecting through the wood and riveted on the inside. The tube and valve were of the same primitive construction as the first. But this time a strip of india rubber was fastened over the cover of gray linen, with an extra strip in the centre, where the road pressure would be hardest.

Only the two large driving wheels of the tricycle were fitted with pneumatic tires. The small front guiding wheel, on which there was little friction, retained the solid rubber, as the broader tire would have had no room to play between the forks.

A most clumsy looking contrivance was the result of all this patient labor; but it was fast. The small boy was much chaffed by his companions about his ungainly looking wheels, but when it came to a race he outdistanced them all.

His father, watching the ease and speed with which he flew over the rough cobblestones of the Belfast streets, and hearing of his triumphs over all his youthful competitors, was more and more convinced in his confidence in the possibilities of his invention.

He resolved that his boy should have a tricycle of the modern and approved quadrant pattern with the new tires attached. He called on the chief cycle agents in Belfast, Messrs. Edlin and Sinclair, to negotiate the purchase.

Mr. Dunlop ordered a Quadrant tricycle without wheels. There were difficulties in the way. Mr. Edlin doubted if the manufacturers would accept such an order. He ridiculed the notion that an amateur could construct wheels for himself. But Mr. Dunlop's quiet determination carried the day.

The body of a Quadrant tricycle was procured, and the indefatigable inventor with his small assistant set patiently to work to manufacture wheels, rims and tires. It was a tough job, but two months' patient labor in the brief intervals he could snatch from his professional work accomplished it. This time the width of the wooden rims was re-

duced from three inches to two, otherwise there was very little change in the original construction.

There was still, however, nothing which could be called a valve. The air was pumped in through the bit of feeding bottle tubing, which was tied to present escape. Across the inside end of the tube a strip of rubber was fastened in such a way that when it was distended by the pressure from without it left two small slits at the side, through which the air passed through into the tire. This strip was meant to spring back into its place when the outside pressure was withdrawn and prevent the inner air escaping. But it speedily curled up and became useless.

However, the wheels were large, the rims broad and the boy light, and it was found that the tires could be kept sufficiently inflated by the simple process of tying up the end of the tube when the air had been forced in.

The machine was grotesque to look at, but a marvel to go. It got and kept the name of "the mudcart." The small boy, now a well known figure flying through the streets on this grotesque machine, was an object of mingled ridicule and admiration to his companions. Envy and admiration gradually predominated as the marvellous qualities of the tricycle more and more asserted themselves. It is worth noting that during the whole period there was no puncture.

The fame of the new invention reached vaguely to the ears of Messrs. Edlin and Sinclair, the cycle agents. Mr. Dunlop, happening to turn into the shop, they chaffed him half in jest and half in earnest about those homemade wheels. Mr. Dunlop is the best humored of men. "Come up and try it for yourself," was his only retort to their ridicule.

It proved sufficiently effective and conclusive. Sinclair came up next day and had a ride on the ugly duckling, and was amazed. Next morning both Edlin and Sinclair returned on two neatly made rubber tired cycles of the newest and most approved pattern. There was a race between the three—two men and a boy, not to speak of the wheels—along the quiet street in front of Mr. Dunlop's house. Up the street and down again, half a mile in either way, they flew at top speed. Sinclair speedily dropped out; Edlin, a racing man, stuck close to the boy almost to the end. But the pneumatic came in an easy winner, and the man was panting and the boy was cool when the race was over. Then Edlin had a ride on the pneumatic, and was even more surprised and delighted than his partner. They had come to scoff and remained to praise.

Now they desired to construct a pneumatic bicycle with steel rims, and Mr. Dunlop consented. They were to make the frames, and he undertook the rims and tires. This time it was agreed that the tire should be no more than an inch and five-eighths in diameter. Mr. Dunlop is inclined to believe still that this is the happy medium, so far as

comfort is concerned, and that the modern tendency is to make the tires too narrow. Many of those who remember the obsolete luxury of the old, clumsy, big "rag and rubber" tires will agree with Mr. Dunlop.

He found the steel rims troublesome to manage. He first made a narrow groove along a thick wooden plank. On this the strip of steel was laid, and on the steel a crowbar. Then one of the horseshoers in the ward beat on the crowbar with a heavy sledge to force the steel to curve into the groove. But the first steel supplied was too brittle, and at the first stroke it splintered and flew. The second experiment was successful, and the first hollow steel rims were fashioned by this primitive process.

Messrs. Edlin and Sinclair adapted their machinery to the new work, and so just at the close of the year 1888, a dozen years ago, the first pneumatic bicycle was constructed.

Straightaway Trials Abroad.

The motor cycle kilometre (1,093.6 yards) trials at Bexhill, England, held on May 19, were somewhat marred by cold winds and intermittent rains. The course was on private ground so that speed laws were not effective. The times were taken with a flying start at the foot of a sharp fall of 160 yards, which was used to get up speed.

The road was nearly straight, but near the finish there was a slight curve that required slowing up entirely owing to the wet surface.

The cycles were divided into two sections, racers and tourists, and restricted to 112 pounds for bicycles and 532 pounds for tricycles.

In the tourist bicycle section a 2 horse power machine won in 1 minute 34.5 seconds. In the speed bicycle section the best time was made by a 4½ horse power machine in 54.1-5 seconds, but this purely speed machine was disqualified for being without a muffler, and the race went to a 2¾ horse power machine in 1 minute 13.5 seconds.

The only entrant for touring tricycles was ruled out for overweight. In the speed event no times were given out.

From all accounts the management was of the poorest kind and there may be considerable changing of the times that were given out.

Limit Man Wins Chicago's Big Race.

Although it presented one of the richest prize lists in years—it included a motor bicycle, two chainless and three chain bicycles—the American Century Wheelmen's 100 mile road race on Decoration Day attracted but 65 starters. At that, however, it is the biggest event of the year in the Middle West, and the only sign of cycling life of which Chicago gives outward semblance. The race is one of enormous handicaps, the limit being two hours, and this year a limit man, James E. Gill, won, completing the hundred in 6h. 36m. 35s. William Blum, the scratch man, finished ninth and won the time prize in 5h. 17m. 12s.

The Stitch in Time in Cycling.

That a small thing may be the seed of a large result was recently brought with considerable force to the notice of a Bicycling World man.

A friend had turned over a bicycle to be ridden for purposes not germane to the matter under discussion. Shortly after starting to ride it became necessary to thread the way through heavy and close traffic. For awhile all went well, a few good dodges were made under the noses of horses and between the wheels of closely driven trucks. Just as it seemed that the worst was over, it was found that a bad "pocket" had been ridden into, but in a second a chance presented itself to get out of the "pocket" by turning the front wheel at right angles and coming to a momentary standstill.

Then came the proof of the need of care in small things. In throwing the handlebar around it was jerked out of the left hand, leaving the grip in the grasp. Next came the crash. The pavement was of Belgian block and wet. The sudden change of equilibrium necessitated by the change in position of the steering wheel could not be made, and with but one hand to be at once effectively used the machine shot out from under the rider and between the wheels of a heavily laden truck.

Of course there was but one thing to do—sacrifice the machine to personal safety. The result was only a wrecked front wheel, but when it is considered that 5 cents spent in fish glue or tire cement would have saved at least \$1.50, then comes the wonder. The worst of it was that the owner confessed that the grip had been loose ever since he took the bicycle out of its winter storage.

Of course, it can be argued that the rider should not have taken the chances of the close riding, and that he should congratulate himself that no personal accident accrued as a result of his temerity. This is not denied in the specific case, yet it does not require much thinking to picture what might have happened under the most legitimate conditions of riding. It would not be a particular stretching of the imagination to suppose that trouble could occur in riding down a hill. All that would be necessary to fill in the story would be a rolling stone, or a rut. With one loose grip there would be a mixup of rider, bicycle and road severe in probable results, but against which it could not be urged that the rider was taking unnecessary riding chances.

It is, of course, assumed that in this, as in the case told of, the rider of the bicycle started out innocent in the matter of a loose grip.

Alphas Will Enter Three Men.

The Alpha Motor Cycle Club, of Brooklyn, has voted to enter three of its members in the motor bicycle Boston to New York endurance run, to be held July 4 and 5 by the Metropole Cycling Club, of New York.

RACING

The professional and amateur sprint champions showed their speed at Vailsburg Decoration Day, Kramer defeating all the crack pros in the half mile open, and Hurley showing his heels after a remarkable race, in which he covered the quarter mile in 0:29 3-5, a new record for the distance. Hurley's performance was the more remarkable from the fact that he rode from scratch, wearing down those in front of him and winning out by fully ten lengths.

Final heat of half mile open professional race—Kramer first, Hadfield second, Bedell third, Burdgett fourth; time, 1:01 2-5.

Quarter mile amateur handicap—Final heat won by Hurley (scratch), Howie (40 yards) second, Dolbear (25 yards) third, Coffey (20 yards) fourth; time, 0:29 3-5.

The five mile race for motor bicycles, "for gentleman riders," as the programme stated, brought out three starters. The race was won by L. J. Wyckoff by half a lap; Johnston was second. The time was 7:52 1-5. The final heat in the two mile amateur handicap was won by Goodwin (240 yards) in 4:15 1-5, Spain (240 yards) second, Glasson (30 yards) third, Chappey (60 yards) fourth. The five mile professional handicap furnished a series of sensational sprints, there being a prize for the leader of each lap. Hauser and Millar had 400 yards, and there were other riders at various distances, down to Kramer at scratch. The sprint for home was between Alexander and Armbruster. The latter was leading until the last few strides, when Alexander came with a rush, winning out by only a few inches. King was third, a length in front of Coburn. Although having no chance to get any of the prize money, the back markers kept on, and sprinted for home in the last lap as if their efforts would land them in first place. Kramer was the leader crossing the tape, with Rutz second. Alexander (300 yards) first, Armbruster (300 yards) second, King (300 yards) third, Coburn (300 yards) fourth; time, 10:29 3-5. Over 5,000 people witnessed the close racing.

In a ten mile motor paced heat race at Washington, May 29, Freeman defeated Butler in two straight heats. In the first heat Freeman got the pole when the flag was dropped, and in three laps had a lead of about ten yards. This was gradually increased until the fourth mile, when Butler began to gain lost ground and had the handicap reduced to half a lap by the fifth mile. In the middle of the sixth mile Freeman, however, again made his advantage three-fourths of a lap and kept it there until the end of the heat. In the second heat Freeman again got the pole. Butler lost his pace for awhile on the third lap of the first mile, and Freeman increased his lead to one-fourth of a lap. In the fifth mile Butler's tandem pacing machine broke down, and before the single motor could come to the rescue Butler

had been lapped twice. Just as he caught the single he was lapped the third time. In the sixth mile Butler lost his pace for a few seconds, and was lapped once more. In the eighth mile the single pacing machine also went wrong, and Butler was left alone. He caught Freeman's pace for one lap, and then went it single handed. He was finally beaten by six laps, Freeman's pacers slacking up in their work. Time first heat, 15:33; second, 17:54. The race between Turville and Zimmerman on a motor tandem and Burrows on a motor bicycle was a faux pas. Burrows's wheel went wrong at the end of the first mile.

The feature of the races held at Vailsburg on June 1 was the riding of Hurley, who won both the five-mile amateur handicap and the half-mile open. In the five-mile race, in which a special prize was offered, the man who led at the greatest number of laps, forty riders entered. Hurley by a sensational ride finished first, breaking the amateur record by covering the distance in 11:9 1-5. The record was held by Ingraham, with 11:15 4-5. H. Welsing, scratch, was second; E. Manley, 200 yards, third; E. Sindle, 100 yards, fourth. The one-mile professional for riders who have not competed and not won at Vailsburg in 1902 was won by Cadwell; Bedell, second; Strebs, third and Hausman, fourth; time, 2:09 3-5. Hurley won the half-mile open for amateurs, for which twelve riders qualified. Glasson was leading at the stretch turn, but Hurley, coming like a streak, went to the front half way up the straight. Billington, too, came very fast at the end, and nipped Glasson for second place; Walter Smith was fourth; time, 1:04 2-5. The fifteen-mile motor paced race between Henry Caldwell and Joseph Nelson was disappointing, inasmuch as Nelson, after leading for the first ten miles, was forced to retire by the breaking down of his pace. Caldwell, continuing, won as he pleased in 23:47. This was Nelson's first appearance as a professional.

At New Haven on June 2 an ugly spill occurred on the last lap of an exciting 25-mile race, in which Kramer, Hadfield, Bald, Collett and Schreiber were among the starters. Hadfield had stolen a lap on the bunch of riders between the eighteenth and twentieth miles, and thereafter kept with them. On the last lap Hadfield, then sure of victory, but with ten men still riding for second and third places, rode too high on the turn, and, running into the fence, rolled down, carrying the others with him in a heap. Hadfield disentangled himself, and, breaking from a policeman who tried to hold him, ran to the finish line, carrying his wheel, and claimed the race because of the lap taken. Kramer, Collet, Schrieber and Alexander alone remained on their wheels and finished the race in that order. The race was awarded to Hadfield. The times was 1 hour 4 2-5 seconds. Bald quit at the fifteenth mile, being unable to make the short turns on the track.

The one-mile championship of Yale University was won by W. C. Langley in 2:00½.

At Atlantic City on May 29, 30 and 31, Joe Nelson had something akin to a picnic. He rode four match races in the three days and won them all; incidentally, he gave the amateur records several jolts. He used, or was provided with, A. A. Courter as a chopping block, who is not in the Nelson class, and has little or no experience as a pace follower. On the 29th Nelson defeated him by more than a mile in fifteen in 25:34. In the afternoon of the next day Courter again finished a bad second in a ten mile race in 16:18 4-5, a new record, and in the evening at the same distance was as far behind in 16:20 1-5. On the 31st Courter took his medicine in a five mile race, Nelson establishing new records en route as follows: One mile, 1:3 1-5, two, 3:03; three, 4:35 1-5; four, 6:07; five, 7:39 1-5. In the professional class on the 29th Munroe easily defeated King at twenty miles in 31:14 1-5. In the afternoon of the 30th Freeman beat Munroe in two straight heats of ten miles; times, 15:57 1-5 and 15:58 3-5. In the evening he gave Butler the same dose; times, 16:36 2-5 and 16:17 3-5. On the 31st King also bested Butler, but at twenty miles; time, 33:36 2-5. Butler's tire burst on the second mile.

About 6,500 persons saw Champion regain the brassard at Boston on May 30, defeating Elkes and De Guichard, covering 25 miles in 34:14 3-5. Champion rode his last mile in 1:25 3-5, said to be the fastest mile ever covered in competition in this country. The previous fastest was 1:27 1-5, made by Walthour at Providence on October 5, 1901. Up to the fifth mile Elkes had been steadily drawing away from Champion, being about sixty yards in the lead; De Guichard was left far in the rear. Entering the homestretch on the fifth mile, Elkes tandem missed explosion and came to a dead stop. Elkes went into it with a smash. When picked up Elkes was unconscious, but came to at the quarters. His injuries were not serious, but he suffered from bruises and burns. Champion continued, and won the race by two and two-thirds miles over De Guichard.

Two motorcycle races were run at the unsanctioned meet at Electric Park, Baltimore, on Saturday night. In a half mile event G. P. Towles beat Thomas Gooden in 1:09. In the mile Robert French and Fred Hipple, on a tandem, defeated Robert Thompson and Howard A. French on singles. The other races were participated in by local riders only, and were without special interest. A meagre crowd attended.

The experiment of daylight racing was tried at Baltimore May 30, but did not prove successful, in so far as the attendance was concerned. In the first heat of the five mile single motor paced race between Gus Law-

son, Hall and Lake, Lawson did some great riding. In the first heat he got off behind Hall, but passed him in the second mile. At the end of the third mile he had a lead of half a lap, which he increased until at the finish he was very nearly two laps ahead. Lake showed himself to be outclassed by the other two. In the second heat Hall again took the lead and was holding out well, when his tire exploded. He was thrown, but not seriously hurt. Time of first heat, 8:35; second heat, 8:10 2-5.

Moran had a mixup with the thirteen hoodoos at the Revere track on May 30, and got the worst of it. He was scheduled to ride a 25-mile paced race against Walthour, but on the thirteenth mile one of his tires burst and he was thrown. Walthour continued until the seventeenth mile, when the referee called the race off. It was nip and tuck until the fourth mile, when Moran began to drop back, and at five miles he was lapped by Walthour. Up to the thirteenth mile, when the fall occurred, he was lapped regularly every three miles. Moran was not seriously hurt. Time for the seventeen miles, 26:18 2-5.

Yale University literally swept the boards at the Intercollegiate Bicycle Racing Association's annual meet at Vailsburg on May 31, which was something of a frost. Only three colleges were represented—Yale, University of Pennsylvania and Gallaudet, the deaf-mute school at Washington, D. C. In the five events Yale took first, second and third in each of them. O. G. Butts won the half in 1:16, F. T. Mason the mile in 3:06 3-5, C. R. Ellincott the quarter in 32s., M. Moore the two miles in 5:41 2-5 and W. C. Langley the five miles in 11:47 2-5. The crowd was slim and interest lukewarm.

The Philadelphia Cycle Dealers Association's invitation meet at Belmont Driving Park on Decoration Day attracted purely local or neighborhood entries. The most remarkable feature of the day was the time returned for the ten-mile motor bicycle race, which was won by C. D. Kellogg. The time, 11:47 2-5, is too swift for acceptance. The slow race for dealers went to W. E. Driver, and the one-mile "ladies' race" to Cathryn Cox, in 3:40 2-5.

The ten-mile road race over the Patchogue-Bellport (Long Island) course on May 30, under the auspices of the Patchogue Wheelmen, was won by John Glover, of Patchogue Wheelmen; time, 28:35 1-5; second, Earle V. Golder, Freeport; third, Arthur Parks, Patchogue Wheelmen; fourth, William J. Wright; fifth, Fred Overton, Patchogue Wheelmen. Time prize was won by Floyd Bedell, Baldwin; time, 30:05.

After an absence from the track of nearly three years and after several months of talking to prove that his wind was in good con-

dition, Eddie C. Bald has at last reappeared, and in at least a semblance of his old form. On his native heath—Buffalo—May 30, Bald defeated Fisher in a match three heats, at one mile. He won in two straight heats. Time, first heat, 2:09 2-5; second heat, 2:11 2-5.

Two thousand people saw Caldwell defeat Fenn at the opening of the Hartford Velodrome track, May 29, in a twenty mile motor paced race. Caldwell led all the way, and gained his first lap close to the seventh mile. From the seventh mile to the finish Caldwell continued to gain, and at the end was four and one-third laps to the good. Time, 33:29.

Cables from France report that the big Paris-Bordeaux road race, May 31, was won by Edouard Wattelier, of Paris, who rode an American bicycle. Despite what are described as "shocking roads," he covered the 594 kilometres (369 miles) in 23h. 40m. There were 16 entries. The record for the course is 21h. 43m. 40s., by Lesna.

The races at New Haven May 29 drew a crowd of 3,000 people. The half mile amateur race was won by Collett, Billington second, Hollister third; time, 1:02. Russell won the one mile amateur, Crosser second and Hollister third; time, 2:04. In the ten mile amateur race Linley won in 21:33, Haggerty second, Perkins third, Welsing fourth.

At Hanover, May 22, Major Taylor went down before Rutt, the German, in a three cornered match race made up of three heats of 1,000, 1,500 and 2,000 metres. Taylor won only the second. Arend, the third man in the match was third in each heat.

At Providence, May 30, Elkes defeated De Guichard in a twenty-five mile motor paced race by about a mile. Elkes got the best of the start after considerable delay, and was never headed. Time, 40:49 3-5. Some 10,000 people witnessed the event.

At Worcester, May 30, Caldwell won the twenty mile motor paced race from McLean in 33:22 4-5. Through accidents McLean had to change wheels twice during the race, and he was more than a mile behind at the finish.

MacFarland won the twenty mile motor paced race at Pittsburg May 30, defeating Maya by about half a lap. The first five miles were covered in 7:37, the ten miles in 15:02 1-5, and the twenty miles in 30:04 3-5.

The reports that the German cracks had combined to beat Major Taylor are evidently well founded. Cables state the practice as being so open and flagrant that even the German papers are protesting against it.

OPENING

OF THE

METROPOLITAN

RACING

SEASON.

INVITATION

MEET

OF THE

Metropole

Cycling Club

MANHATTAN BEACH,

SATURDAY, JUNE 21.

3 Amateur Events.

Professional Events

ENTRIES CLOSE JUNE 16.



ADMISSION BY
INVITATION ONLY.

Particulars regarding invitations supplied the
trade on application to

S. W. MERRIHEW, Chairman,
124 Tribune Building, NEW YORK.

MOORED

THE INDUSTRIAL MACHINE CO.

Manufacturers of the

DeLONG MOTORCYCLE

Formerly of PHOENIX, N. Y.

are now
located in

SYRACUSE, N. Y.

OFFICE AND FACTORY,

Cor. of WATER and GRAPE STS.

This is the DeLONG



PRICE \$200.

Have you applied for
the agency? If not
DO IT NOW.

INDUSTRIAL MACHINE CO.

SYRACUSE, N. Y.

To Prevent Rust.

To prevent nickled or burnished parts from being attacked by rust they should be coated with a transparent varnish, composed of collodion amyl acetate—not the ordinary collodion, which is quite another thing. To four liquid ounces of this add an equal quantity of refined fusel oil.

Two bottles are required—one containing about half a pint of the pure collodion acetate and the other the mixture of collodion and fusel oil. These ingredients, together with a soft haired brush, can be bought at any chemist's.

After thoroughly cleaning the parts to be protected, some of the collodion should be poured out into a cup, and this should be thinned down to flow to the best advantage by mixing some of the fusel oil mixture with it. The proper consistency is best found by experimenting with some of the mixture. If it is too thick it will work lumpy; if too thin it will run and not lay on evenly.

Several coats of the preparation should be given to the parts, and plenty of time should be allowed for drying. After the last coat has been applied, a week or ten days should be given it in which to dry. Parts so treated may be washed by turning a hose upon them, and then leaving them to dry off themselves.

The lustre of the plating is not appreciably affected; the coating will last for a considerable period, but this is chiefly determined by the care exercised in cleaning and coating the parts.

When Motors Lose Power.

Beginners are often in difficulties through the sticking of the inlet valve. This is most always due to careless lubrication. Too much oil is used and is carried above the piston. This chars on the valve seats, either holding the valves open or what is more frequently the case, it sticks the intake valve so that the suction stroke does not open the valve enough to take in the necessary charge.

The remedy for this is to be careful with the lubrication. As soon as the valves appear to lag in their work a little gasoline should be injected. Kerosene will give better and quicker service, but it must be used with care and a good deal of judgment.

Wasted Effort in China.

Much useless and wasteful advertising is being done in China by United States merchants and manufacturers, writes the United States Consul at Niuchwang. In the first place, it is almost impossible to sell to the Chinese without their seeing samples; written and illustrated descriptions have little effect upon the Chinese merchant. Imagination plays so large a part in Chinese literature and art that the merchant is by nature suspicious, and descriptions and illustrations, however accurate, fail to appeal to him. Samples, therefore, are all-important in introducing new goods throughout China. Almost all other kinds of advertising are absolutely useless.

If it
were not for the
PERSONS



there
would not be a
saddle fit for use
on a really high-
grade bicycle.

But one idea obtains in
its manufacture—to produce
the very best saddle possible,
regardless of cost.

Ten years' steadfast adher-
ence to this policy has earned
for the Persons the rights and
titles of indisputable leader-
ship.

PERSONS MFG. COMPANY,

C. A. PERSONS, Pres't,

WORCESTER, MASS.

AVOIDING SPOTTY HARDENING

Methods Used in Case-Hardening to Give Even Results all Through.

The subject of case hardening is always an interesting one, and while the following refers to small rolls, it has points worthy of note in dipping after removing from the hardening boxes. It also refers to work where it is necessary to have it extremely hard and free from spots. By ordinary methods of doing hardening it is extremely difficult to get satisfactory results on this class of work.

Writing on this subject E. R. Markham, in the *American Machinist*, states "that it is not the fault of the steel, as a rule, that the hardening is spotty. It may be caused by uneven heating or by bits of scale adhering to the surface and keeping the liquid in the bath away from the steel, or it may be caused by steam forming by the contact of the red-hot steel and the water and keeping the water from the steel in spots.

"It is not necessary to use a high carbon steel in order to get good results—in fact, I think that a low carbon steel, treated by the method I shall describe, will give better satisfaction. The stock used should be at least an eighth of an inch larger in diameter than the finished roll. It should be cut into pieces a trifle longer than the finish length, and should be roughed to within a thirty-second of an inch of the size. After having had a hole somewhat smaller than finish run through it. The rolls should then be packed in a box with powdered charcoal and annealed. In annealing the heat should be a bright red, continued for a length of time sufficient to allow any stains that may be in the steel to be removed. For rolls one to two inches in diameter an hour after the box is heated through would be sufficient. This can be determined by the use of test wires. After having run the proper length of time they should be allowed to cool as slowly as possible. After cooling they can be machined to size.

"To harden they should be packed in hardening boxes with equal quantities of charred leather and charcoal, granulated and well mixed. Do not allow the pieces to come within half an inch of each other or within an inch of the box at any point. Before packing wire each roll with a piece of iron binding wire. These wires should be long enough to project over the upper edge of the box. Put on the cover and lute with fire clay. When packed, the boxes should be placed in the furnace. Time the heats by the method referred to, run at a low heat for an hour and a half for rolls of one inch diameter. Larger rolls should be run proportionately longer. At the expiration of the time take the box from the furnace, take the cover off, and, by means of the wires, remove the rolls one at a time and dip in a bath of strong brine, which should

be violently agitated in order to force the steam away from the work, yet not in a manner that would let any air in contact with the roll. The agitating of the bath should be from opposite sides toward the centre. The pieces should also be worked up and down in the brine to insure good results. When all traces of red have disappeared and all singing has ceased they can be dropped to the bottom of bath and left to cool.

"When the hardening is all done, or from time to time the pieces should be removed from the bath and the strain removed by placing in warm water in a kettle over the fire or connected with a steam pipe and brought to a boil. The temperature of boiling water is about the proper heat to use in removing strains when it is not desirable to draw the temper at all. The lowest temper that shows any trace of color is a light green, 430 degrees. The pieces should be allowed to cool with the water. If the above directions are followed closely good results should be obtained."

The Proper Air Pressure.

Many riders are rather uncertain as to the degree of air pressure to which it is necessary to inflate the tires of a motor bicycle so as to derive the best results. If the tires are unduly inflated they shake both the rider and machine on a rough road rather unpleasantly. On the other hand, if they are ridden in a slack condition there is a tendency to slip, roll and puncture, and the wear is intensified.

The wisest method is to avoid extremes either way. With a machine fully equipped and the rider mounted, the right degree of hardness is ascertainable if the tires show a slight depression at the point of contact with the ground. This will be found to yield the best results, both from a comfortable and speed point of view.

Of course, with the motor machine travelling at a faster pace than that of the ordinary, the rider cannot pick and choose his way. The tires under the circumstances are very much subject to cuts and gashes, which should at once be attended to. The rider should, therefore, be prepared against any emergency, and arm himself with a repairing outfit fully supplied with all the materials necessary to cope with the worst forms of puncture.

How Rigdon's Views Have Altered.

S. G. Rigdon, of the Goodyear Tire & Rubber Co., Akron, is in New York this week. When he was here early in the year he was inclined to view the trade prospects through darkened glasses. The effect of the season's prosperity has altered his views considerably.

"I'll admit that the business has surprised me," he said on Monday. "Our only trouble has been our inability to produce tires fast enough to meet the demand, and at that we have quite a capacity. We've already begun to plan a 300 foot addition to our plant."

THE ANSWER WHICH TURNETH

How the Wise Virgin Slips Through When Caught out Without a Lamp.

Have you ever noticed, by the way, remarks an observer of ruling influences, that if a man is caught violating the light ordinance he is promptly "hailed in," and that the opposite sex always manage to escape the clutches of the "bluecoat" for the same offence? How does she do it, you ask? Well, to illustrate:

A young lady I know who has just mastered the difficulty of keeping her centre of gravity on the wheel, after many days of persistent effort, took a spin the other afternoon into the suburbs to visit a lady friend.

It was while returning from this trip, minus a lamp, and considerably after sunset, that she met a policeman. That is the only time that one ever does meet a policeman. On this occasion, however, it happened that he was a nice policeman.

Instead of thrusting a horrid stick in the wheel and wrecking the fair rider he merely said, "Rather late to be cycling without a light, isn't, miss?" A mere man would probably have "scooted," got "hailed in," and thereby made another lifelong enemy in the force. But feminine reasoning found an excuse. "It is," she assented, "but—but—I'm only learning!" This rather aggravated the offence, of course, but the officer gallantly accepted the plea, gave a little advice, and went his way.

The lady went hers, a trifle scared, and presently met another policeman. "Hi! You're riding without a light!" he challenged sharply. "Y—yes, I know," said the novice pacifically; "I met a policeman just now. He told me, and—and—I'm hurrying home as fast as I can!"

Thus for a second time that night the soft answer which turneth away wrath disarmed the force, whose gallantry to a cyclist in distress must excuse its slight dereliction of duty in not reporting her for a summons.

If it had been a man, however, he would have been arrested instantaneously. Such is one of the disadvantages of being a man. Poor man!

The Retail Record.

Los Angeles, Cal.—W. H. Hoegge, fire; loss slight.

New York, N. Y.—H. G. McKinlay, 306 West 59th street, sold out to M. L. Bridgman, 310 West 60th street.

Kendall, N. Y.—Frank M. Stone, reopened store; also branch at West Kendall.

Rochester, N. Y.—Edward Blanchard, Main street and Plymouth avenue, fire; loss slight.

Oxford, Mass.—Frank S. Clark, moved to Barton street.

Saginaw, Mich.—Tierney Bros., 217 Genesee avenue, selling out.

"QUEERING" CUSTOMERS

How Much Good Work is Undone and Business Driven Away.

That is a very illustrative rural simile, which finds world wide application, of the cow which always gives a full pail of milk and then invariably kicks it over. We do not need to go to the farm or to the back woods to see it.

A store or business may possibly succeed in preparing the best and most alluring advertisements the newspapers have to show. These advertisements may prove so unique as to catch every eye; type, picture and position may leave nothing to be desired; the phrases used may be positively persuasive, and all else that is desirable may be in them. But, says Joel Benton in *Printer's Ink*, what do these things profit, one and all, if the customer, when he reaches the store or buys the advertised article, finds nothing like what he had reason to expect? He is then reminded of another bucolic proverb based upon that farmer's exploit who undertook to shear his squealing hog. The result was "a great cry and little wool."

It may do very well for the claqueur of a tented side show which travels the country through, and obtains necessarily a new field to exploit each day, to revel in superlatives

over his Circassian beauties, his fat woman, his living skeleton or his learned pig—for those who are defrauded by not seeing what the claqueur proclaims cannot punish him by their abstention from the next day's show. The show will then be too far away to be affected by their resentment.

With most businesses, however, prosperity is directly drawn from a stationary and neighboring public. If that public is reached and pleased by an advertiser, his paid for space represents money well spent. But if he has somehow drawn the public and failed to give them what he loudly promised, he has more than nullified all his glowing story. For it is not only the pleased customer who tells, but the displeased one tells still more. Resentment, it must be remembered, has a sharp tongue, and never forgets to repeat a damaging indictment.

The effects of advertising are only slight when it merely reaches the eye—when the proclamation is observed but not deeply felt. The cumulative power comes from making people talk. If just one customer says, "Go to Jones & Smith's for your groceries" the advertisement is mightily reinforced, for a dozen or more will hear this disinterested advice and go. Still more than that will result, for each one of these dozen will himself say the same thing to his friends, and they again to theirs in a wonderfully growing arithmetical progression.

But suppose a dealer has advertised liber-

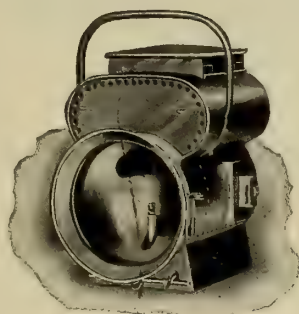
ally and faultlessly, and then serves his customers so ill as to make them talk the other way. It were better for him if he had never advertised at all. He will get the chorus of opinion, to be sure, and it will spread likewise in arithmetical progression—but to his damage instead of to his advantage.

Many persons will remember placards and advertisements that offer certain wearables at half price and have been induced thereby to drop in the store where they were offered. On looking at the goods it would be found that they were of unusual sizes from which the ordinary person could not be fitted, or they would be cotton and not linen, or they would be of an objectionable style. If the customer objects to them, as he must, at any price, the suave and oily dealer will then show him the right sorts and sizes at another counter, marked in full price.

He goes out, of course, and doesn't buy—but he reflects. He has been led out of his way simply to be trapped into an unsatisfactory bargain.

When Barnum said "the American people love to be humbugged" he did not mean "to be cheated." He meant that they liked a practical joke, a humorous trick. He always insisted that they want "their money's worth" and a little more if possible. But the moral needs no further parable.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***



The Standard
Acetylene Lamps
for vehicles of all
sorts for years
have been

SOLAR LAMPS

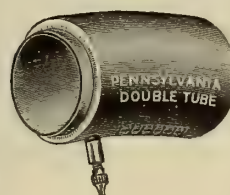
From the time of the introduction of acetylene gas there has been only one lamp that would stand every test—The Solar.

The acme of Solar perfection is the new French Auto Headlight illustrated here.

Our Catalogue tells all about Solar Lamps of all kinds—Send for it.

BADGER BRASS MFG. CO., - Kenosha, Wis.

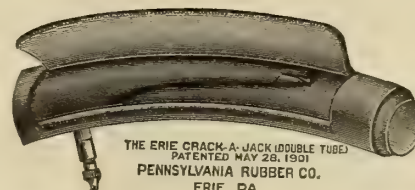
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK (DOUBLE TUBE)
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO

BOSTON
PHILADELPHIA



To Solder Brass.

Almost every bicycle shop is called upon now and then to do work outside the "regular." In fact, many make it a point to go after all kinds of repair work, as they are particularly fitted to do general repairing.

To those who are in this class the following experiences of a contributor to the American Machinist will be valuable, as many of them have no doubt had the same experiences in soldering articles made of brass:

It sometimes happens in hard soldering that the expansion and contraction due to changes in temperature will cause considerable trouble when all conditions appear most favorable for a good result. I will mention a practical illustration in my experience.

A lamp shade holder was required to be built of brass with $\frac{1}{8}$ -inch pipe coupling for centre, a cylindrical ring 8 inches diameter, of $\frac{3}{8}$ -inch tubing, cut open on top side for the shade (heavy glass) to rest upon, and three arms, also $\frac{3}{8}$ -inch tube, butted against centre coupling and joined to ring at three equidistant points. There was only one required, and joints were all butted. These were fitted very nicely, the joint in the ring

being soldered first; next the arms were soldered to the centre piece, and finally an attempt was made to solder the arms to the ring—and here the trouble started. We had a good, quick heat, the solder flowed very nicely, the joint appeared all sound, and the work was laid aside to cool, with a feeling of satisfaction. Imagine our surprise at hearing a noise as of a joint breaking, and finding on examination that this was the case. We made several attempts, with the same result, until we finally opened the joint in the ring, soldered the arms and then soldered the joint in the ring. In this way we overcame all previous troubles.

These joints were soldered with silver solder, and the greatest strain due to contraction on cooling evidently occurred when the existing temperature caused the solder to be comparatively weak. It is evident that a metal whose coefficient of expansion is lower would not produce so great a strain, and might not rupture the joint.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

Tourist Cars on the Nickel Plate Road.

Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fridays. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest ticket agent, or write A. W. Ecclestone, D. D. Agt., 385 Broadway, New York City. ***

Don't wait for your customer to come to you. Go to your customer, and keep going.

...NOT MERELY A GOOD SADDLE BUT THE BEST ONE...



The Price and the Guarantee, like the Quality, are Right.

NEWARK CYCLE SPECIALTY COMPANY, - - - NEWARK, N. J.

CINCH

COASTS FREELY ON BEARINGS.

GROUND AFTER HARDENING.

Brakes Metal to Metal.

Drives Without Friction.

RIGGS-SPENCER CO., Manufacturers, Rochester, N. Y.

"MOTOCYCLES AND HOW TO MANAGE THEM"

REVISED EDITION

BOUND IN CLOTH

The only Book of the Sort in Existence

CONTAINS A MINE OF VALUABLE INFORMATION

PRICE, ONE DOLLAR

THE GOODMAN COMPANY

123-125 Tribune Building, - New York City

The Week's Patents.

700,777. Carburetter. Edward R. Inman, Tipton, Ind. Filed April 19, 1899. Renewed Oct. 2, 1901. Serial No. 77,316. (No model.)

Claim.—1. In a carburetter for gas engines, an open, unobstructed carburetting chamber with downwardly converging walls, air ports leading to and from said carburetting chamber, a receiving and distributing trough located at or near the top of the converging walls of said carburetting chamber, means of introducing oil to and withdrawing same from said carburetting chamber, an exhaust chamber of larger diameter than, and receiving said carburetting chamber, an annular escape port at the top of said exhaust chamber, an annular channel formed about the top of said exhaust chamber, into which said escape port leads, a port in the outer wall of said channel, means of admitting the combusted, exhaust products of a gas engine to said exhaust chamber, means of generating preliminary heat in the exhaust chamber, about the walls of the generating chamber; all constructed, combined and operating substantially as shown and described.

700,796. Coin Controlled Tire Inflator. Barton S. Molyneux, Buffalo, N. Y. Filed Dec. 24, 1900. Renewed Oct. 7, 1901. Serial No. 77,866. (No model.)

Claim.—1. The combination with a wheel-holding jaw or rack, of an air supply conduit, an air delivery nozzle which is movable toward and from said jaw or rack, means for guiding said nozzle, and a coin controlled mechanism whereby the supply of air to said nozzle is controlled, substantially as set forth.

700,840. Pneumatic Tire. Enos Smith, Vernham Dean, near Hungerford, England, assignor to John Smith, Troy, N. Y., and Harry Smith, New York, N. Y. Filed April 12, 1902. Serial No. 102,510. (No model.)

Claim.—1. In a vehicle tire, the combination with an annular shoe inclosure having an unbroken convex tread, and an interiorly located flattened annular seat; of a flattened metallic armor band extending around the interior of the tire in engagement with the flattened seat on the shoe and wholly inclosed within the shoe; an inner removable air tube of circular cross section; and a separate cradle band interposed between said inner tube and armor band and having a flattened outer surface engageable with said armor band and a concave inner surface adapted to receive and support said circular inner tube, said armor band and cradle band being adapted to be maintained in position between said shoe and inner tube by inflation of said inner tube, substantially as described.

701,028. Bicycle Pedal. William H. Fauber, Chicago, Ill. Filed March 7, 1898. Serial No. 672,976. (No model.)

Claim.—1. The combination with a grooved supporting spindle the groove of which is constructed to confine bearing balls from endwise movement of the spindle, of a tubular body surrounding the spindle and provided with a cylindric inner surface, bearing balls in said groove in contact with the inner surface of said tubular body, an annular part having a bearing shoulder removably secured within said body and adapted for contact with the balls to hold the tubular body from endwise movement relatively to the spindle.

700,841. Bicycle Pump. Eugene F. Smith, Stockton, Cal. Filed Sept. 9, 1901. Serial No. 74,781. (No model.)

Claim.—1. In a bicycle pump of the class described, the combination: a frame tube

formed to compose the pump barrel or body and having its lower end closed, a nipple to receive the hose, a saddle post having its top end closed with two small openings arranged therein, and adjustably secured in the top end of the pump barrel, a plunger rod inserted into one of said openings and having a suitable plunger attached thereto, a suitable clamp rigidly attached to the hose and adapted to engage the plunger rod and protrude into the opening and the arm 13 attached to said saddle post, all arranged and operating substantially as shown and described and for the purposes set forth herein.

701,245. Pedal Balance. Frank H. Anderson, Wallhalla, N. D. Filed April 9, 1901. Serial No. 55,003. (No model.)

Claim.—1. A pedal balance substantially as shown and described comprising the supporting rods, means for connecting them with the pedal, the weight carrying rods extending at right angles to and across the supporting rod and having deflected portions fitting between said supporting rods, the screw passed through the space between the supporting and carrier rods, the nut and washers for securing the carrier rods and supporting rods together, and the weights on the carrier rods on opposite sides of the supporting rods substantially as set forth.

700,147. Sparking Plug. Charles A. Mezger, Brooklyn, N. Y., assignor of Minnie Mezger, Brooklyn, N. Y. Filed March 25, 1902. Serial No. 99,902. (No model.)

Claim.—1. The combination of a chambered plug having a sparking point thereon, an elongated conducting member forming the second sparking point and projected through the chamber and extending adjacent to the sparking point, and a tubular shell arranged in the chamber of the plug and spaced from the walls thereof and from the sides of said elongated member forming the second sparking point, for the purpose specified.

700,209. Motor Driving Apparatus for Cycles. Henry J. Lawson, London, England, assignor to Charles R. Flint, trustee, New York, N. Y. Filed Jan. 31, 1900. Serial No. 3,421. (No model.)

Claim.—1. In a motor driving apparatus the combination with a driving wheel, of a hollow axle or hub therefor, fixed exterior bearings carrying the hub, means for securing said bearings to a rigid frame, a motor mounted on one side of the driving wheel, a driving shaft projecting from the motor into the hub of the driving wheel, but not supporting the vehicle, a bearing within said hub for one end of the motor shaft, a fixed bearing for the other end of the shaft, means for securing the fixed bearing to a rigid frame, and speed gear interposed between the motor shaft and hub of the driving

700,209. Motor Driving Apparatus for Cycles. Henry J. Lawson, London, England, assignor to Charles R. Flint, trustee, New York, N. Y. Filed Jan. 31, 1900. Serial No. 3,421. (No model.)

Claim.—1. In a motor driving apparatus the combination with a driving wheel, of a hollow axle or hub therefor, fixed exterior bearings carrying the hub, means for securing said bearings to a rigid frame, a motor mounted on one side of the driving wheel, a driving shaft projecting from the motor into the hub of the driving wheel, but not supporting the vehicle, a bearing within said hub for one end of the motor shaft, a fixed bearing for the other end of the shaft, means for securing the fixed bearing to a rigid frame, and speed gear interposed between the motor shaft and hub of the driving wheel.

If You Are Interested in Automobiles



WILL SURELY INTEREST YOU.

It is published for the information
of the average mortal; no dic-
tionary of mechanical
terms is needed to
understand it.

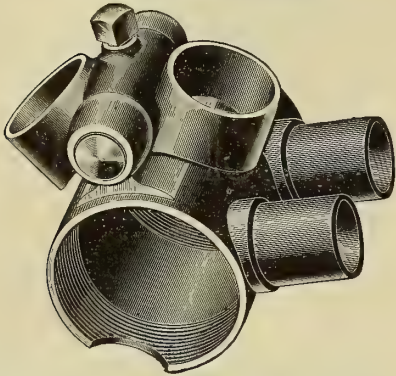
**PUBLISHED EVERY THURSDAY
AT 123-125 TRIBUNE BUILDING,
NEW YORK CITY.**

**\$2.00 PER YEAR.
10 CENTS PER COPY.**

SAMPLE COPY ON APPLICATION.

Fauber Hinge Bracket

for Cushion and Spring
Frame Bicycles.

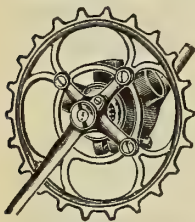


The hinge parts are made of forgings.
Bearing points are wide apart lessening chance for
lost motion.

The hinge pin is a hardened and ground taper pin.
Bracket for 1 1/8 in. and 1 in. tubing fitted to all
styles

FAUBER HANGERS

FAUBER MFG. CO., - Elgin, Ill.



"D. & J." HANGERS

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

AND
The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY
THE NATIONAL CEMENT & RUBBER MFG COMPANY,
Toledo, Ohio, U. S. A.

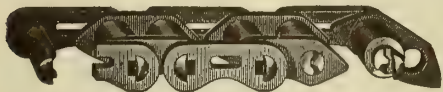
Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

CONTRACT WORK WANTED — We have
purchased all of the machinery of the Shelby
Cycle Plant, and have screw machines, automatics,
punch presses and lathes, which are idle at present.
We therefore desire to take contract work in quantities at a low price. Part of the machinery and two tons of leather belting we offer for sale. Correspondence invited. A. W. GUMP & Co., Dayton, Ohio.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

IDEAL HANDLE BARS

made in all shapes with extensions in 2 1/2 inches, 3 1/2 inches and 5 1/2 inches forward throw. Also with straight stems with and without internal binders. The cheapest bar on earth, quality considered. Sole manufacturers

IDEAL PLATING CO.,

3 Appleton Street, BOSTON, MASS.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

You all know what the diamond stands for among
precious stones. You can't well afford
not to know that

D·I·A·M·O·N·D·T·I·R·E·S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.

ARNOLD, SCHWINN & CO.
CHICAGO.
WORLD BICYCLES.

Jobbing Wheels a Specialty.
LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

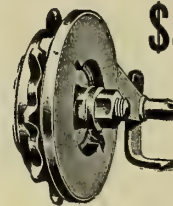
...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.



\$3.00 Coaster Brake

FITS ANY HUB.

Screws on in place of the
usual sprocket. Anyone can
apply it. For free booklet and
particulars, address

Canfield Brake Co., Corning, N. Y.

The Only Tires Fit For
Motor Bicycles—

**GOODYEAR
DETACHABLES**

Fit Any Rim.

GOODYEAR TIRE & RUBBER CO., AKRON, OHIO.

WYOMA
Coaster Brakes.

UNIVERSAL AND DETACHABLE.

We control following patents:

June 12, Aug. 14, Dec. 25, 1900,

Feb. 19, March 26, April 1, 1901,

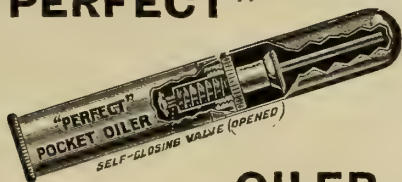
covering all features of construction of these
brakes. We also control trade-mark "E. Z."
and will manufacture all brakes so stamped.

See issue of January 1st for description
and watch our Ad.

Reading Automobile & Gear Co.,

Tenth and Exeter Sts., READING, PA.

"PERFECT"

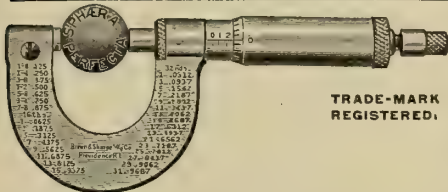


OILER.

For High Grade Bicycles. The best and neatest Oiler in the
market. DOES NOT LEAK. The "PERFECT" is the
only Oiler that regulates the supply of oil to a drop. It is ab-
solutely unequalled. Price, 25 cents each.

We make cheaper oilers, also.

GUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK



**STEEL
BALLS**

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel

That balls bought from us at one time will be exactly like balls of a similar size bought from us
at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

The Week's Exports.

While last week's export manifest was not
as long as usual, some of the shipments were
of great bulk, those to Great Britain aggre-
gating in value some \$16,000. Africa took
upward of \$6,000 worth and Germany almost
as much. Holland \$4,000, China \$3,700 and
Denmark \$3,100 were the other large items.
The record in detail follows:

Antwerp—39 cases bicycle material, \$1,632.

Argentine Republic—10 cases bicycles, \$1,337.

British West Indies—9 cases bicycles and
material, \$182.

British Possessions in Africa—115 cases bi-
cycle material, \$6,312.

Bremen—2 cases bicycle material, \$48; 3
cases bicycles, \$75.

Belfast—1 case bicycles, \$50.

Bale—19 cases bicycles, \$329.

British East Indies—30 cases bicycles and
material, \$1,518.

British Guiana—5 cases bicycle material,
\$135.

Copenhagen—43 cases bicycles, \$1,175; 59
cases bicycle material, \$1,953.

Cuba—12 cases bicycle material, \$850.

China—66 cases bicycle material, \$3,745.

Chili—11 cases bicycle material, \$209.

Dutch East Indies—11 cases bicycles and
material, \$551.

Genoa—31 cases bicycles and material, \$919.

Havre—53 cases bicycles, \$720; 26 cases bi-
cycle material, \$1,557.

Helsingfors—1 case bicycle material, \$100.

Hamburg—200 cases bicycles, \$4,850; 31
cases bicycle material, \$1,148.

Japan—24 cases bicycles and material, \$144.

Liverpool—214 cases bicycles, \$4,250; 17
cases bicycle material, \$692.

London—101 cases bicycles, \$3,500; 53 cases
bicycle material, \$5,723.

Mexico—1 case bicycle material, \$15.

Nova Scotia—3 cases bicycles and material,
\$150.

Newfoundland—10 cases bicycles and mate-
rial, \$229.

Rotterdam—108 cases bicycles, \$3,785; 7
cases bicycle material, \$245.

Southampton—12 cases bicycle material,
\$1,776.

Uruguay—6 cases bicycles and material, \$375.

THERE'S

One Thing Certain

whenever and where-
ever you see a cyclist
on a

**CUSHION
FRAME
BICYCLE**

that bicycle is a high-
grade bicycle, and its
rider is obtaining all
the pleasure there is
in cycling.

The cushion frame is in itself
as much a guarantee and badge
of quality as it is a sign of comfort.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

The H. A. Matthews Mfg. Co.

MANUFACTURERS OF

BICYCLE FITTINGS

of all description and of the finest quality,

SEYMOUR, CONN., U. S. A.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway - New York 435 Vine St., - Cincinnati
801 Chest St., Philadelphia 507 Smithfield St., Pittsburgh
388 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.

SOLAR LAMPS

ALWAYS SATISFY.

Badger Brass Mfg. Co., Kenosha Wis.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines. A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R.R.

LOWEST RATES FAST TRAIN SERVICE

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.



The Authority of the Cycle World

RELIABLE NEWS

ON ALL CYCLING EVENTS

Interesting & Comprehensive.

ADVICE TO RIDERS.

Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Through all Bookstalls and Newsagents or from the

Publishers

ILIFFE & SONS Limited,

3, St. Bride Street, London, E.C.

and HESTER STREET, COVENTRY.

"The Sphinx of the Twentieth Century."

ASIA AND THE CHINESE EMPIRE.

Comparatively few people are familiar with the Chinese Empire as it exists to-day. In view of the constantly growing Oriental commerce of the United States, everyone should become familiar with the Chinese Empire. The

NEW YORK CENTRAL'S

"Four-Track Series" No. 28 gives valuable statistics and information regarding the Flowery Kingdom, and contains a new and accurate map in colors.

A copy of No. 28, "A New Map of Asia and the Chinese Empire," sent free, postpaid, on receipt of five cents in stamps by George H. Daniels, General Passenger Agent, New York Central Railroad, Grand Central Station, New York.

YALE WINS AGAIN.

May 22d, at Washington, D. C., Howard Freeman, on a Yale, won 10-mile paced race, defeating Fenn.

The fifth mile of first heat ridden in 1 minute, 26 2-5 seconds, beating the track record. All of the amateur races at the meeting won on Yales.

May 31st, at Vailsburg, N. J., Marcus L. Hurley, on a Yale, won 5-mile handicap from scratch in 11:09 1-5—2 1-5 seconds inside record; Welsing, on a Yale, second. At same place, May 29, Hurley won the quarter-mile; Billington, on a Yale, second.

IF YOU HANDLE A DEAD ONE,
BETTER MAKE A CHANGE.

The KIRK MFG. CO.,
TOLEDO, OHIO.

167 Oliver St., Boston, Mass.

83 Chambers St., New York.

Two Selling Articles

== THE ==
Hussey Bar

== THE ==
Snell Bicycle

The Snell Cycle Fittings Co.

New York

TOLEDO, OHIO

Boston

If you ride or sell,
or intend to ride or sell
motor bicycles,

"Motocycles and How to Man-
age Them"

is the very book you need.
Every page teaches a lesson. Every illustration
"speaks a piece."
And there are 126 pages and 41 pictures, too!

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.

WRITE FOR CATALOGUE AND PRICES

ALL THE

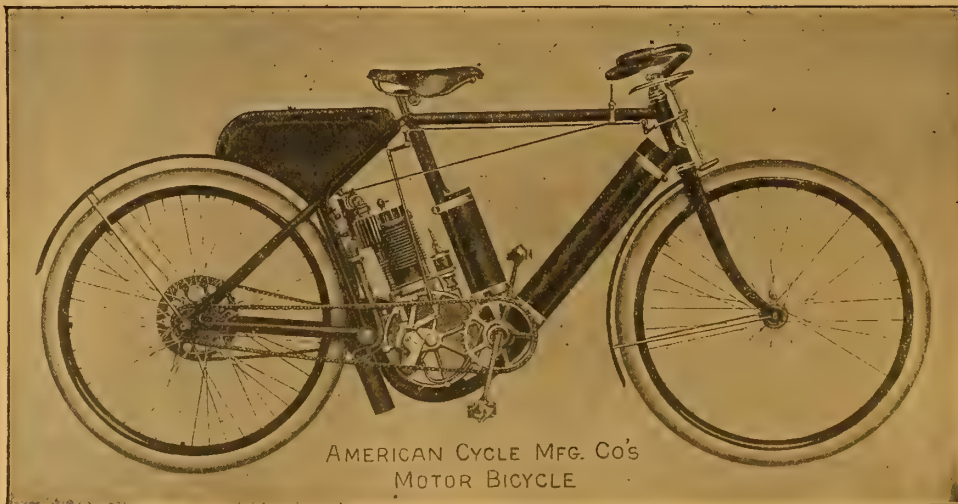
STANDARD BICYCLES

OF THE WORLD

At Prices To Suit The Purchaser

WE CAN SHOW YOU A GOOD PROFIT

COLUMBIA MONARCH
CLEVELAND RAMBLER TRIBUNE
CRESCENT IMPERIAL JUVENILE
AND MOTOR BICYCLES



AMERICAN CYCLE MFG. CO'S
MOTOR BICYCLE

Also Hygienic Cushion and Regas Spring Frame Bicycles

AMERICAN CYCLE MANUFACTURING COMPANY

EASTERN SALES DEPARTMENT
152-154 Franklin St.
NEW YORK CITY

WESTERN SALES DEPARTMENT
497-501 Wells St.
CHICAGO, ILL.

PACIFIC COAST BRANCH
451 Mission St.
SAN FRANCISCO, CAL.

WRITE FOR CATALOGUE AND PRICES

WE WANT A LIVE DEALER IN EVERY CITY AND TOWN

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, June 12, 1902.

No. 11

STAR WITNESS PROVES A PERJURER

A. J. Gould, the Defendants' Mainstay in Bottom Bracket Suit, Confesses Himself a Scoundrel—Expected to get \$50,000 for Retracting his Testimony—His Whole Case a Rascally Plot—His Confederates Confess.

Alfred J. Gould, the chief witness for the defendants in the suit of the American Bicycle Company vs. the H. P. Snyder Manufacturing Company, which is being defended by the remaining members of the Cycle Trades' Protective Association, and which involves the famous Smith bottom bracket patent, turns out to have been a monumental scoundrel.

Not only has his testimony been proven perjurious, but the several models which formed exhibits in the case have been proven to be manufactured for the purpose. The man has also been proven a suborner of perjury, not only by those whom he induced to enter into his fraudulent schemes, but by his own confessions. He is now believed to be on his native heath, Great Britain, but before he left he voluntarily but unwittingly allowed himself to be trapped into signing for the complainants in the case a statement admitting his crime. He first offered to "sell out" to the American Bicycle Company for \$50,000, and repudiate his testimony for the defendants, but there is no reason to believe that he received one penny.

Rumors that Gould had turned on those with whom he had been formerly associated have been current for several weeks, but until Tuesday of this week, when the printed transcript of the testimony of the various people involved became available, definite information was not obtainable. This testimony demonstrates that for a man who is not over intelligent, and who is rather illiterate, the case built up by Gould was astounding.

The men who entered with him into the plot were Orrin A. Wheeler, a bicycle dealer on West Washington street, Chicago; Charles Gorman, now a foreman in a Chicago nail factory; Robert Sharkey and J. B. Sharkey. Wheeler and Gorman, the latter of whom came from England in 1885 and engaged in

the bicycle business in Springfield, Mass., deposed that at the instance of Gould, they had made up certain frames and bottom bracket models which had been battered and stained with acid to give them the appearance of age. Coached by Gould, they also had "remembered" dates when they had imported or manufactured bicycle parts having a bearing on and antedating the Smith bracket. Both Wheeler and Gorman executed depositions confessing their parts in the plot.

The Sharkey brothers personated two former Chicago repairmen, whom Gould designed to give testimony, but whom he feared or failed to interest in his scheme. Robert, posing as Benjamin S. Stanley, and J. B. Sharkey, as Stanley B. James. The Sharkeys also came from Great Britain. Gould promised Gorman and Wheeler as high as \$10,000 each for their perjury.

Gould appears to have been laboring under the impression that for his testimony in favor of the defendants, he and his family were to be taken care of for life. In the early part of the present year it seems that he was undeceived in this regard, and, scoundrel that he is, he at once made overtures to the attorneys of the American Bicycle Company—Redding, Kiddle & Greeley. He first appeared at their offices, in this city, on March 17 of this year. He was anxious to see President Coleman, of the American Bicycle Company, stating that he could be of great service to that concern. Mr. Coleman was out of town, but for fifty thousand dollars Gould then and there volunteered to make affidavit destroying the value of his testimony given on behalf of the defendants. He stated to Mr. Redding and Mr. Kiddle, and later to Mr. Greeley, that he could swear that the bottom bracket was made by William E. Smith, and that Smith showed him drawings which illustrated the frame with the bracket built into it, and that the ideas were those of Smith and not those of himself. He added that when he gave his deposition in behalf of the defendants he had not been sworn.

The following day Gould again appeared at the lawyers' office, and when asked to reduce his proposition to writing, he immediately consented. A stenographer was thereupon placed at his disposal, and he dictated the following statement:

"I am willing to testify in rebuttal on behalf of the American Bicycle Company in the suit of American Bicycle Company vs. P. H. Snyder Manufacturing Company, and others, pending in the United States Circuit Court for the Northern District of New York, as follows:

"That there was a mutual understanding between me and William E. Smith at my interview with him when I brought the patterns to him, that there was to be an agreement, it was verbal, that I was to have one-half interest if he got a patent. He showed me in the fall of 1884 photographs and sketches or drawings of different parts of bicycles relating to the bottom bracket, and he always declared that he never got a patent on the same after me bringing the patterns to him in February, 1885. I know it was February because I took a caveat out at Washington at the same time. I took a caveat from Philadelphia in February, 1885. He showed me the photographs and sketches or drawings at the first interview I had with him in the fall of 1884 at his house in Washington, D. C. When I had the first interview with him at his house in Washington, D. C., in the fall of 1884, he explained to me the bottom bracket and at the same time showed me photographs and sketches or drawings of different bicycles, and the two of us together talked the matter up. William E. Smith called his wife, and she brought a roll of drawings downstairs into the dining room, which Mrs. Smith testified about in her evidence as to William E. Smith having made the drawings prior to that time, and they were laid on the table, and I know that Charlie Smith was present at the time the drawing came down, for he talked some time with us and then went out,

(Continued on page 312.)

FIRST OF ITS KIND

Rules for the Motor Bicycle Endurance Run From Boston to New York'

Rules governing the motor bicycle endurance run promoted by the Metropole Cycling Club, of New York City, have been promulgated and are given below in full.

The event will be the first of its kind in the world, that is, an endurance run exclusively for motor bicycles. It is therefore attracting keen attention all along the route, and there promises to be a large entry list.

As announced in the *Bicycling World* March 20, the route is from Boston to New York City. The dates are July 4 and 5, and the run will be made rain or shine. The entry fee has been fixed at three dollars (\$3.00), and entry blanks can be had of E. L. Ferguson, secretary of the committee, 124 Tribune Building, New York City. Entries close June 30.

The objects of the run shall be to demonstrate the reliability of the motor bicycle and the ability and skilfulness of the rider to operate same. Speed beyond the average rate of 15 miles per hour will be penalized.

The contest will start at 8 a. m. July 4 from Copley Square, Boston, and run to Hartford, Conn., for the first day. On July 5 the start will be made at 8 a. m. from the Hartford control, and the finish will be at the club's headquarters, Sixtieth street and Broadway. Starts will be made in couples at one (1) minute intervals.

Where more than one machine is entered by one party the names of the various riders must be sent in not later than June 30. The committee in charge reserves the right to reject any entry.

All contestants must report at the start at 7 a. m. of July 4.

The contest will be open to motor bicycles only, classified according to motor power, and by the term motor bicycles it must be understood that they be equipped with cranks and pedals, and in condition to be driven by pedal propulsion if occasion requires. Each contestant may pedal at any time without penalty.

The bicycles entered will be classed as follows: Class A, motors of not over $1\frac{1}{4}$ h. p.; Class B, motors of more than $1\frac{1}{4}$ h. p. and not over $2\frac{1}{2}$ h. p.; Class C, motors of more than $2\frac{1}{2}$ h. p. and not over 3 h. p. No entry will be accepted when the motor is more than 3 h. p. or where other abnormal conditions exist. Horse power ratings will be based upon catalogue ratings of the makers of the motors.

In riding through built-up sections the speed must not be in excess of 8 miles per hour.

Checkers will be at each control to vouch for and to take the time of the contestants in passing, but it shall devolve upon the contestants to see that they are properly recognized and credited.

The following controls will be established: No. 1, South Framingham, Mass., 23 miles; No. 2, Worcester, Mass., 22 miles; No. 3, Warren, Mass., 26 miles; No. 4, Springfield, Mass., 29 miles; No. 5, Hartford, Conn., 26 miles; No. 6, Meriden, Conn., 20 miles; No. 7, New Haven, Conn., 20 miles; No. 8, Bridgeport, Conn., 20 miles; No. 9, Greenwich, Conn., 34 miles; No. 10, New York, 34 miles.

Riders need not stop at controls.

Each control except (3) Warren, Mass., and (8) Bridgeport, Conn., will be at outskirts of the town as same is approached. Controls will be designated by a green flag at right hand side of road and ten (10) feet above same. At the (3) Warren and (8) Bridgeport control the same will be at points given on schedule card supplied at the start.

All contestants will be provided with a card corresponding to entry number. This card will show his maximum and minimum schedule for arriving at all controls based on his actual starting time. The maximum schedule, being based on legal speed limits, will leave no excuse for violation. All contestants must provide themselves with a watch that they shall have means for observing this rule. If the maximum schedule is exceeded at any control the rider will be cautioned by the checker in charge. Three cautions shall disqualify. On each of the two cautions allowed, a leeway of ten (10) minutes will be granted. For each minute over the ten (10) there shall be a penalty of two (2) points. Numbered devices will also be provided to be attached to the machine.

Checkers will remain at each control for three hours from the time the last contestant is due. Any contestant arriving at any control behind his minimum schedule will be penalized one (1) point for each minute that he is tardy.

In riding over the course the usual rules of the road must be observed.

All essential parts of machines will be sealed at the start by the referee. Any changes or alterations of sealed parts will be penalized.

Entire changing of machine will be cause for absolute disqualification.

Awards will be made on the point system on the performance of the machine and on the ability of the rider.

Protests must be filed with the referee only, and within one-half hour of the contestant's finish and by the contestant in person.

The bicycles must be delivered to the committee at the finish for verification.

Gasolene will be provided at each control.

Failure to start as per number and schedule will not alter schedule. That is, delays at either start will not be deducted from schedule, and failure to arrive at controls on scheduled times will count as if starts were made on time.

The officials of the contest shall be a referee, three judges, two starters (one at Boston and one at Hartford), a chief timer and such checkers and assistants as shall be found necessary at various points along the course.

The duties of the referee shall be to notify each contestant at the start to approach all controls at slow speed, that any instructions can be given by those in charge. To demand of each contestant that he understands the rules, and to carry out such other matters as usually devolve upon this position. His decision shall be final.

The duties of the judges shall be to pass upon the awards and penalties herein provided for or that may be decided upon later by the committee in charge.

The duties of the starters shall be those usual to this position. They shall start contestants as per the official schedule. Should any contestant fail to be on hand to start at his scheduled hour, he may only be started in the next vacancy.

The chief timer shall set his watch in conformity with "observatory" time at Boston and Hartford before the starts, and shall compare it with the same timing at the finishes in Hartford and New York. He shall compare his times with those marked on the score cards forwarded him by the scorers at the controls.

The duties of the scorers at controls and at such other points as may be selected shall be to set their watches in conformity with their local "observatory" time; to keep records of the time and number of each contestant in passing; to caution any contestant against overrunning the time allowance and to keep record of same; to keep records of any occurrence that he may deem needful for the judges' information. Each control will be provided with a green flag to be displayed in a prominent position by the scorer in charge on the right hand side of the road and at a point ten (10) feet above the road surface. The location of all controls except (3) Warren, Mass., and (8) Bridgeport, Conn., must be on the outskirts of the town in the approaching direction. Scorers will remain at their stations for three hours from the time that the last contestant is due.

The West Amazed Glover.

Charles Glover, the head of the P. & F. Corbin coaster-brake department, returned to New Britain last week after a tour which embraced practically all of the jobbing centres east of the Rockies. While the Corbin interests had nothing to complain of, Mr. Glover's trip added materially to his buoyancy of spirit.

"The volume of bicycle business that is being done in the West simply astonished me," he said. "While I knew that trade there was good, I was unprepared to find it so good as it is. In some places there was a positive dearth of medium priced bicycles. The jobbers are unable to get them fast enough. While I was in St. Louis one of the big houses there received a carload in the morning and shipped it away in the afternoon. This active demand is, of course, carrying with it a fuller appreciation and call for coaster-brakes, and next year should see that invention spread like wildfire throughout the West, where its recognition has been rather tardy."

ADVICE FOR NOVICES

The Particular Features of the Motor Bicycle Which Should First be Studied.

"If you had a friend who had purchased a motor bicycle, what would be your first advice to him?" was recently asked of a man who has been supposed to have had lots of experience in his direction. The advice was as follows:

Before anything else the buyer should look over every part of the motor mechanism and allied parts that are easy to get at, that he may familiarize himself and know how to handle his machine under usual conditions. If his machine has a battery box in which the cells are placed by the assembler this box should be opened, and the point noted that the positive poles are always connected to negative poles, and vice versa. Never are two positives or two negatives connected together. This is important to know in case any of the cells are ever replaced. Also notice that if the positive pole of the first cell in the series is not connected as above, that the negative pole of the last cell in the series will also be in the same condition. These two end poles—and opposites—are connected outside. The positive end is connected to the battery wire of the coil—primary circuit of coil—and the negative end to the safety plug block placed somewhere in circuit between the battery and the handlebar or the grip switch.

If the machine is quipped with a battery placed in a long tube, the cells in this are wired up on the same "series" wiring plan, but the battery is supposed to be in what may be called a sealed condition, only the outside wires interesting the user.

Whatever the battery, the connections that can be examined should be, and from this point on all electrical connections carefully looked over. This will include the spark controller.

The lubricating oil tank should be looked into and its feed to the motor studied. As a part of this it would be well to open the drip cock in the crank base to see that the latter is not flooded. More trouble has come from flooded crank cases and consequent fouled spark plugs and valves than is probably appreciated.

Next the gasoline supply should be looked to, and it may save much time and trouble if the feed to the carburetter is also examined—that is, let the gasoline run through any and all feed pipes to see that they are clear of foreign matter.

The action of the mixer should also be thoroughly studied out, and the maker of the machine looked to for a clear explanation of its working and the effects of condition. By conditions is meant particularly the different effects, if any, of different amounts of gasoline in the supply tank. Some mixers

need a slight change, if adjusted for a full tank, when the gasoline supply gets low.

If more beginners would run their machines in a stand for the first few times, and try different combinations, studying and watching the effects of these, they would have infinitely less trouble when they start out on the road.

Paul J. Sorg Laid to Rest.

The funeral of the Hon. Paul J. Sorg, the president of the Miami Cycle & Mfg. Co., Middletown, Ohio, who died suddenly on the last day in May, was a sad event, which bore witness to the esteem in which he was rightfully held by his townspeople.

The obsequies were public, being held in the Sorg Opera House. Business was practically suspended, all of Middletown's factories, banks and stores closing at noon. At that hour the procession moved from the home to the opera house. The hearse was preceded by the William Lowell Putnam Command, U. V. L., from the Dayton Soldiers' Home, which acted as an escort and a guard of honor at the theatre. All of the municipal organizations, including the City Council, the Board of Education and other departments, were in line, while thousands of working men and office workers were in the procession. The streets were massed, and the opera house was filled to overflowing. The services were impressively solemn.

Mr. Sorg's death was a sad loss to Middletown and the Miami Valley. He probably was their most noted and most useful citizen. He had served the State in Congress and out of it, the Miami Cycle & Mfg. Co. being but one of the industries which he founded there. The P. J. Sorg Tobacco Co., the P. J. Sorg Paper Co., the McSherry Mfg. Co. (agricultural implements), the Middletown and Cincinnati Railroad, the United States Hotel, the Middletown Gas Co. and the Merchants' National Bank were other enterprises which he instituted and reared. One of Mr. Sorg's last acts was to provide for the erection of a soldiers' monument in his beloved Middletown.

Cause of Crosby's Good Humor.

W. H. Crosby, the head of the Crosby Co., Buffalo, was in New York late last week, and in rare good humor.

"There was never a year that I can recall," he said, "when the demand for fittings was so steadily maintained. We were never before so busy at this time of the year as we are right now."

Orient Motor Arrives.

Orient motor bicycles are now being equipped with 3 horsepower motors of Orient manufacture, the use of the foreign made Aster having been discontinued. The new motor, Manager Gaylor of the Waltham Mfg. Co. not unnaturally considers "a little ahead of them all."

Failure in Lynn.

The Essex Automobile & Cycle Co., Lynn, Mass., assigned on Thursday last. No figures were made public.

NO BOOM LIKELY

South African Firm Outlines Conditions That Exist and Advises Caution.

"We can indorse every word of the article appearing in the *Bicycling World* of March 13 regarding the existing situation and prospects of cycle trade in South Africa," write A. Hargreaves & Co., of Port Elizabeth, South Africa.

"Though rumors of the near approach of peace are now in the air, the consummation of such a desirable state of affairs will not necessarily bring with it any immediate increase of trade, for the possibilities of business are strictly limited by the ability or otherwise of the railways to handle the goods traffic.

"It is for this reason that our far-seeing administrators, Lord Milner and Lord Kitchener, have so strictly limited the weekly return of the refugees. To have allowed a large number of people to return would have been to court a famine. This limited passenger service will, no doubt, continue for a considerable time after the declaration of peace, as the military will still occupy the country and control the railway traffic.

"For many months past there has existed a terrible block of goods at the ports. Steamers lie for weeks and sometimes months before being discharged. We have got to overcome the transport difficulty and get straight at the ports before things resume their normal aspect.

"We are afraid that many persons in the cycle trade and on the press have an altogether exaggerated idea of the possibilities of trade with this country. It is true that a large business is done, especially having regard to the comparative absence of good roads outside the towns; but one has only to remember that the white population of the whole country is only equal to that of one of your large cities, and that a large proportion are either unable to afford bicycles or find no use for them on account of unsuitable roads, to realize the fact that the volume of trade must necessarily be limited.

"Some time ago, on account of the overconfidence of shippers and South African merchants not in the cycle trade, large numbers of bicycles were shipped here; the market was flooded, and hundreds of machines had to be sold in the auction rooms at any price to cover duty and freight. This not only caused a loss to the shippers, but did a great deal of harm to the legitimate trade. Let us hope that more caution will be observed in future."

English Show Dates Set.

The twenty-sixth Stanley Show has been set for Nov. 21-29. It will be held as usual at the Royal Agricultural Hall, London. The National Show, the Stanley's younger rival, will run concurrently at Crystal Palace.

RIDDEN ALL OVER THE WORLD.

NATIONAL CYCLE MFG. CO.,

Bay City, Mich.

MAY 22, 1902.

GENTLEMEN:—I wish to compliment you upon the superior workmanship displayed in special wheel built for me.

The beautiful little machine arrived day before yesterday, and I could hardly wait until it was uncrated. I placed the machine on exhibition in the store and it attracted all manner of attention. After trying it on the road, find that it is the lightest, easiest running machine I ever owned. This is making a broad statement for the reason that I have had many special wheels built for me in the 18 years that I have been riding. Am very proud of the little wheel, and I wish to thank you for your efforts in designing and building so splendid a machine. Nationals always did run easy, and the riders here are now fully convinced that they are the acme of fine workmanship and bicycle building.

Respectfully,

H. K. SMITH.

The purchase of a National is economy in the long run.

The sale of Nationals is a good business proposition.



*TOURING THE AZORE ISLANDS ON A
NATIONAL BICYCLE*

The Guaranteed Tire

FISK

Because it is the Highest Grade.

EASY TO RIDE—SAFE TO BUY.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday
By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] **\$2.00**
Single Copies [Postage Paid] . . . **10 Cents**
Foreign Subscription **\$3.00**

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, JUNE 12, 1902.

Unhappiness That is Pleasing.

From trustworthy reports the mail-order bicycle has had no happy time of it this season, if, indeed, it has not actually reached the end of its rope.

The Western house that has easily led the herd in the matter of wildly extravagant lies and wildcat and tricky schemes is understood to have suffered a terrific slump, its sales having dropped from 80,000 to 20,000 bicycles. The others of the ilk are said to have felt the pinch and to be feeling it in corresponding ratio.

There are few who will regret their discomfiture; rather, most of those in the cycle trade will hope that it will be rendered more complete. No other one source was responsible for half so much downright lying, deception, disappointment and spread-eagle misrepresentation generally. No manufacturer's reputation was safe in mail-order hands. Crafty jugglers of words, they knew how to turn others' fame to their advantage, just as they knew how to set up false standards of price and quality.

The causes contributing to the downfall or partial downfall of the mail-order bicycle are many. The general clean-up of factories, the savage competition in cheap wheels which marked the earlier months, and the succeeding caution, the superaggressiveness of the jobbing trade and the countryman's wisdom born of expensive experience with the mail-order crocks all aided in the result. It is a result that should play a part in renewing the fair name of the bicycle and in increasing the cycling pleasure of those who previously gave it small thought and were content to live in the land of blissful ignorance.

From information that has reached us bearing on next season's prices and policies, we should say that the mail-order bicycle will fall still lower in trade reckonings and cease to be a serious factor of trade disturbance.

Situation in South Africa.

Messrs. Hargreaves & Co. are probably doing the cycle trade of the world more service than they reckoned on when they penned the letter printed in another column.

Peace in South Africa had not been declared when they wrote, but even the distant prospects of it had caused to circulate wild ideas of an enormous demand for bicycles and may have caused undue expectations, if not preparations, in several directions.

Apart from the serious item of railway congestion, the fact, pointed out by Messrs. Hargreaves & Co., that the entire white population of South Africa hardly exceeds that of a large American city, is one that carries greatest weight, and should not be overlooked at any time.

The "bicycle booms" that followed American occupation of Cuba and the Philippines were short lived and carried no small disappointment in their train. The same is likely to prove the case in South Africa if caution is not exercised.

The Value of Clubs.

While the value of clubs and of club events to the trade is no longer what it once was, and is generally underrated or pooh-poohed, it is not so insignificant as would appear on the surface.

The clubs—or, more particularly, the events which they promote—constitute the sort of publicity or advertising which money cannot buy and which awakens or most deeply impresses the unthinking public. The statement admits of small dispute.

But what is more particularly in mind is the value of the motor bicycle clubs that are gradually organizing throughout the

country. They will effect, or aid mightily in effecting, the solution of many of the problems that now confront the trade. Most of these problems arise from the lack of information and of a ready means of obtaining information regarding the troubles and the remedies for the troubles to which any new device is heir. The motorcycle club will provide the ready means of securing the knowledge, and the very knowledge that is of greatest value—that born of varied personal experiences.

The mutual interchange of opinion and the mutual helpfulness that come of a community of interest are beyond price, and this the motorcycle club will make possible, to say nothing of the publicity and enthusiasm for motor bicycles that it will create.

The motor bicycle club is a necessity, and should be welcomed for the great good that it will do. May its numbers speedily increase!

No Longer a Controversy.

When an important or an epoch-making constructional change reaches the point where it is no longer much discussed it is a foregone conclusion that its battle has been either won or lost.

If it is the latter it speedily drops out of sight and is little heard of further. If the former is the case, however, the propaganda goes steadily on, its prosecution making scarcely a ripple on the surface, but none the less surely reaching its goal.

In the history of the bicycle two great epochs stand out and have been so much remarked on that they have become almost tiresome.

Reference is made to the safety and to the pneumatic tire, of course. The two fought and won their battles in almost exactly the same way. Greeted with disapproval, opposed stubbornly, they for some time waged what seemed a doubtful battle. Victory, sudden and signal, came in the end, and in that end no adversary was left.

In spite of some very marked points of difference, there is a strong resemblance between the career of the coaster-brake and the safety and the pneumatic tire.

Unlike them, the coaster-brake will never entirely displace its adversary; or, at least, it would be a very bold prophet who would venture an assertion to the contrary. At the same time, it is interesting to recall that the same disdainful incredulity would have met similar statements a decade and a decade and a half ago.

But, like the two features referred to, the

coaster-brake has ceased to be the subject of controversy. It is well known, its merits and demerits have been duly considered by most riders, and a decision favorable or the reverse arrived at.

Of those who assume that the coaster-brake is not for them a considerable number will adhere stubbornly to this belief, turning a deaf ear to all arguments favoring the device. But others are equally certain to divest themselves of prejudice and approach the matter in a judicial spirit, resolved to see if there really is anything in the extravagant claims put forth. Of such many will be converted.

Time is sure to continue to tell heavily in favor of the coaster-brake.

Its rival, the fixed gear, is as yet the standard equipment. Before very long, perhaps next year, there will be a change in this respect. Some manufacturers will make the coaster-brake the standard, the fixed gear the optional—and be surprised at the little commotion the change makes. Others will follow their example, and the influence of regularity—always a weighty argument—will be cast in its favor. The prejudice against the device removed from many minds which now entertain it, it will be given a fair trial. Such a trial is certain to tell heavily for it.

How the Wind has Veered.

So much can happen in a few weeks or months! A changed viewpoint will sometimes do it all.

It was only a very short time ago that the project to change the name of that famous old Philadelphia club, the Century Wheelmen, by eliminating the "Wheelmen" part of it was looked upon with much favor. Wheeling was still indulged in, of course, and the club was still composed of old cyclists. But the automobile was taking the place once held by the cycle, the social features of the club were coming more and more to the front, and the "Wheelmen" part of the name did no good and perhaps did harm to the organization. It was a clog. Cycling was distinctly unfashionable. Why obtrude it?

So, as stated, the proposition to change the name was viewed with favor, and had it come up last winter it would probably have gone through with a rush.

But the riding season came, and it was entered upon with a hearty good will such as had not been in evidence for a considerable time. Consequently when the proposition came up last week it was promptly rejected by an overwhelming vote. And

last Sunday a well attended club run was held, and in the afternoon the rooms were filled with members who, singular to relate, talked of little but cycling.

The Art of Selling.

There are salesmen and salesmen, as has so often been remarked. Some attract, others repel, customers. The latter are frequently just as quick to "size up" the salesman as the latter is to take stock of the former.

It is for the salesman to judge his man. A few judiciously framed questions will nearly always do the trick, and thereafter it is much plainer sailing.

One customer may have made up his mind, decided upon the machine he wants, and only needs to make his bargain. It is a waste of time, and unwise as well, to start the story at the beginning and go over the whole ground with him. Far better to close the transaction with a few well chosen words of commendation which will send the purchaser away in a good humor, pleased with his choice.

Some salesmen, however, adopt the same, or almost the same, mode of treatment with entirely different classes of customers.

They come to him seeking information. They want a cycle, but which make is something that has yet to be decided, and the object of the visit is to obtain information that will make for this end. If the salesman knows his business he will divine this or learn it in a few minutes and shape his mode of attack accordingly. He is possessed of just the information the would-be purchaser seeks, and should impart it in a way that will set the inquirer at his ease.

It may be said that all this is obvious, and that good salesmen pursue just these courses. Perhaps they do; but, if so, there are a great many poor salesmen to be found.

It is not the cycle stores alone, although they are among the most pronounced offenders, that fall short in this particular.

The microbe of incompetency penetrates almost everywhere. Even department stores, with their highly specialized systems of selling, are notoriously affected. Customers are frequently repelled, even disgusted, by the treatment they receive; and only the fact that they want the goods induces them to persist in their efforts to buy.

Too often it is the same way with prospective purchasers of bicycles.

The salesman succeeds because success is easy or assured, and not through any special efforts which he makes. When a different

sort of customer falls to him, quite another story is likely to be told.

Cutting out the Muffler.

Immediately requiring attention at the hands of makers, dealers and clubs is the tendency on the part of a few motor bicycle riders to cut out the muffler while riding through the country.

No doubt to the ear of the enthusiasts who to-day make up the majority of motor bicycle riders the sharp and staccato sound of the exhaust into the open is music of no uncertain quality; but these same enthusiasts, as do all of their ilk, no matter what the specific line, have the sport as a whole at heart, and want to see their number multiply.

To this end they should bear in mind that it is their acts of to-day which will largely control the immediate future of their particular hobby. For them it can be said that where they have been guilty it has been rather an act of omission than one of commission.

Whatever the cause, it can at once be appreciated that if continued in this particular offence will soon lead to legal restrictions on the road, both reasonable and proper—restrictions caused by those who lead that will not be reasonable to shoulder onto those who follow. Carelessness in this matter at the present time will lead to future hardships all the more galling because not merited by those upon whom they will fall the hardest, unless these be the offending makers and dealers.

Instances of the sort have recently come to our notice, and we call attention to the subject that it may receive attention at once and from those whom it most affects.

The United States Vice-Consul General at Teheran, Persia, has evidently imbibed too much of the atmosphere peculiar to the country in which he is stationed, or else is overfull of antiquity, self-importance or prunes. In no other way is it possible to account for his remarkable and ungrammatical opinion that "the bicycle, even under the most favorable conditions, is not a very dignified method of travelling." Perhaps Mr. Tyler is unaware that the President of the United States, the King of England, and other exalted excellencies and highnesses have not thought the bicycle beneath their dignity.

Great Britain is welcome to its Gould. May his stay there be long and unbroken!

Orients Win Everywhere.



MERIT WILL TELL.



First, Second ^{and} Third Place in the Great Irvington-Milburn Road Race.

Wyckoff, on an Orient Motor Bicycle, wins the 10-mile motor race.

The Orient Motor Bicycle also wins first place in the great motor races at Bexhill, London, England.

At Staten Island Speed Contest the Orient 3-H. P. Motor Bicycle makes a straightaway mile in 1:10 2-5.

SUCH RECORDS AS THESE NEED NO COMMENT.

WALTHAM MFG. COMPANY, WALTHAM, MASS.

Reasons why the "BUFFALO MOTOR CAR" is so Popular.

"BUFFALO TONNEAU"

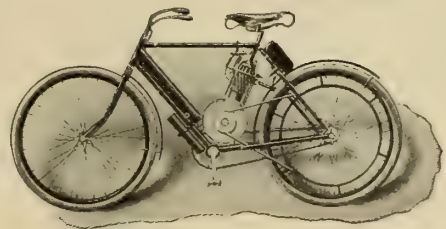


Model 15. Price, \$900.
" 7. " 800.

LONG WHEEL BASE.
EASY RIDING.
6 Brake H. P. Motor.
SURPLUS POWER.
LARGE LUGGAGE BOX.
Convenient for Touring.
LARGE TANKS.
Insuring Long Distance.
AN EXCELLENT HILL CLIMBER.

"AUTO-BI"

THE STANDARD MOTOR CYCLE.



Model 4. Price, \$175.
" 3. " 150.

INCLUDES ALL FEATURES USUALLY FOUND ON \$2000 CARS.

TONNEAU EASILY DETACHED.

We use celebrated E. R. THOMAS WORLD'S RECORD MOTORS; they excel.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, 1200 Niagara Street, **BUFFALO, N. Y.**
LONG DISTANCE 'PHONE, Bryant 1370.

ADDRESS ALL CORRESPONDENCE TO BUFFALO.

STAR WITNESS PROVES A PERJURER.

(Continued from 305.)

he said, to the club. These drawings showed the bottom bracket, and William E. Smith explained these drawings to me at that time, and he then asked me to have patterns made in England as I was about to go there, and also to have some bottom brackets made from the patterns for him, which I did, and to bring them back to him when I returned from England. When I went to England I did have the patterns made, and also had the bottom brackets made in England, and brought them back to William E. Smith, and these are the patterns and bottom brackets about which I have testified and which were testified about by the Harts and by Mrs. Gould and by Miller in the testimony given by them in England. I am now willing to testify that these bottom brackets were gotten up in accordance with the explanation made to me by William E. Smith at the first interview I had with him in his house in Washington in the fall of 1884, and were made in accordance with his instructions and brought back from England to him at his request. There were many things said when I gave my testimony that upon looking over the matter I find to be not quite correct, as the time being so long between and me not having time to consider the matter thoroughly, and having had so many suggestions made to me by the Dyrenforths which threw me entirely off my guard, and I think it is but right to say that I consider the patent a genuine patent, if there ever was one in the world, the only difference is that I was not included in it as a mistake. There has been many things said right through the suit which had no bearing upon the case whatever, and the length of time which elapsed, we were not able to prove things that ought to have been proved any further than the patterns direct with Smith. Many letters were found to corroborate statements which I have made, and the evidence has shown right through that they were facts. I consider the patent a genuine patent, and as having been familiar with everything in England before that day, and know there was nothing like it before, and that Smith was really the inventor of the bottom bracket. As Kempt Starley testified, it was the first one he ever saw or used in England was late in 1885. I gave Mr. Hart permission to take a set of those patterns for his private use, and he sold them over the counter in England early in 1885. I am satisfied and am willing to testify that William E. Smith was the inventor of the bottom bracket, and he gave me the explanation of it when I had the first interview with him at his house in Washington in the fall of 1884. I have been well paid for saying things which were not true in this matter, and I do not think that I have been treated justly by Smith. I received at different times various sums of money in addition to the sum of \$20.00 per week.

"I am willing to give sufficient testimony in rebuttal in this case to render of no value

the testimony given by me for the defendants in this suit.

"I have been watched so close by detectives in the interest of the defendants that I have never had an opportunity before this time of making any statement to counsel for American Bicycle Company so as to do justly by William E. Smith as well as to set myself right.

"I must have a consideration if I testify in rebuttal, as I consider that I have a right to a one-half interest in the patent. The consideration that must be paid to me if I give my testimony in rebuttal must be \$50,000, which I think an equivalent for my interest."

On payment of \$50,000 Gould stated that he would make affidavit to the allegations set forth in his typewritten statement, and at once depart for England, in order to get out of the way of the defendants in the case. On April 5 Gould again saw Messrs. Redding and Griddle, and brought with him a satchel containing copies of letters and papers which he said the defendants' lawyers did not know he possessed, and which he claimed to have obtained while securing evidence for them. On that date he signed a further statement which deals mainly with his financial arrangements with the defendants. He goes into some details of his expenses and receipts, and claims that he was promised that "\$30,000 would be banked for him, the interest on which would provide for him for life." He claimed to have expended \$3,730 and to have received but \$2,000.

It was after Gould had made these statements that Wheeler and Gorman confessed their implication in the plot and that the Sharkeys were unmasked.

On Doing one Thing Well.

"Small shot" isn't very effective. Scattered thoughts are weak ones. Diverted rivers become brooks. Divided attention is death to any great success, asserts the Business World.

If you would do a thing well, you must do it with all your heart, and all your mind, and all your soul. And you must keep doing it.

Concentration, application and energy—what can stand before them?

The blacksmith makes one stroke at a time on his forge. The carpenter drives one nail at a time to build his house. The printer sets one letter at a time to make his book.

If we give to each little detail before us exclusive attention it will be done as well as we know how to do it—otherwise not; and hence otherwise we shall not succeed.

The power to concentrate on the doing of one single thing to the exclusion of thoughts of all the rest of the world besides—this is a power which should be cultivated at an early age and cultured and increased with all the years; for in it lies the strength to do and to be.

The competition of modern times renders it more and more an essential part of the equipment for business life. Short hours and hard work. A plunge up to the neck into the present moment. This is the present day demand; and it insures best results and leaves most leisure for the out-reaches of a full life.

Hydraulic Jointing Process.

Hydraulic jointing, in place of brazing, was exploited in a very small way in this country some few years ago. In England it was given much more attention; in fact, it was a hydraulic joint which ended the days of E. T. Hooley.

The idea of all advocates of the process is to do away with the destructive effects of heats used in brazing. In a large measure this view is rather more from a strictly technical engineering standpoint than from any other.

The advantages of brazing are its simplicity, that tubes can be duplicated by any competent repair shop, and the fact that when properly done it has never given trouble. Hydraulic jointing would probably reduce the first cost, but it has the obvious disadvantage that tubes could not be replaced with anything approaching the facility that brazing affords.

The construction is again up for consideration in England, and a company, known as the Birtwistle Hydraulic Jointing Syndicate, Ltd., claims to have devised a successful construction.

In the Birtwistle process the various lugs are made much longer than under present conditions. The method of making the union between the lugs and the tubing is thus briefly explained:

The lug is an easy fit to the tube, and in the lug are three small holes, bevelled from the inside. The tube is inserted in the lug, and the whole placed on a jig, the tube being placed on what looks like a ramrod arrangement. This is in reality a water channel, and it is here that we are introduced to the hydraulic principle.

The water channel is carried along to a point underneath the junction between the tube and the lug. A clamp is placed over these, and water is then forced along the channel to the point of junction, which has for the time being been converted into a watertight chamber by washers at each end. The pressure is steadily applied until it has reached six and a half tons to the square inch, and by this time the walls of the tube have been forced through the lug at the three places where the holes exist. The pressure is taken off, the clamps are removed, and the joint is complete.

The whole operation takes less than two minutes. Of the simplicity there can be no question. It does not seem possible for the careless workman to get in any of his deadliness. The cheapness of the work is equally apparent, for after the first purchase of the machinery there is practically no further expense. A few washers and a supply of water are all that are needed.

These two points may be conceded at once; the question which will arise in the minds of everyone, whether maker or rider, is, How will the joint stand?

On this score there is little testimony of any length, and it is beyond question that the sponsors for the process have before them a pretty stiff proposition, and must be prepared to make demonstration by long usage of many bicycles so put together.

TESTING WITH ALCOHOL

Used as the Power Producer for Motor Cycles in a French Endurance Run.

In an endeavor to placate the farmer vote in France the Minister of Agriculture organized a two-day race over the roads for motor vehicles and motorcycles in which alcohol was used, with 50 per cent benzine, as fuel. The event was known as the Northern Circuit, and occurred on May 17 and 18. The motorcycles were divided into two classes—bicycles and tricycles. Eight bicycles entered, and two went the entire distance. Three tricycles started, all with 7 horsepower motors, and one, a De Dion-Bouton, finished in 16 hours 18 minutes 36 3-5 seconds. The first day's run was made in 6 hours 13 minutes 28 seconds.

The bicycles were all of reasonable power, the two to finish being this year's Werner, with 2 horsepower motors. Their weight was 99 pounds each.

The distance for the first day was 238 miles, and it was covered in 10 hours 7 minutes. The second day's mileage was 299.5, and the time 23 hours 46 minutes 6 2-5 seconds. The total distance was 537.5 miles and the total time 33 hours 53 minutes 6 2-5 seconds, making the average miles per hour just a shade under sixteen.

While the figures do not show it, it will be appreciated that the performance of the motor bicycles showed a marvel of endurance and their value as touring machines when it is added that the day opened with a drizzling rain which afterward turned into a heavy rain that made the going very heavy. The rain kept up all night and all the following day, which was also marked by high winds.

To the weather conditions was added slow speed through the many controls. Under these many adverse conditions the performance can really be looked upon as most noteworthy, although the conditions were no worse than, if they were as severe as, those which confronted the motor bicycles in the New York to Rochester endurance run of last fall.

The results from the consumption standpoint seem to be uncertain beyond merely confirming previous tests by showing that, while the motors behaved as well as with gasoline, the consumption is appreciably higher with the high speed motors, varying from 15 to 25 per cent.

It is quite possible that by modifying the motors the consumption of alcohol can be reduced, that is to say, modifying them in the sense of utilizing the longer expansion of the spirit; but in this event the motors would not be so efficient with gasoline, and it therefore appears as if the gasoline and alcohol motors of the future will be entirely distinct.

Rubber Bands vs. Plugs.

"I know that I am in a very decided minority, but for all that I will say that I have mighty little use for plugs," remarked the ex-dealer who thought he knew something about repairing tires.

"You take a tire to the ordinary repair shop and the man will jab a hole in it the first thing and then get out a big plug to stick in it. It does not make a particle of difference to him what kind of a puncture you have. It may be some little thing that a bit of solution squirted in would close and leave the tire just as good as it was in the beginning. But, zip! goes the instrument, and there is a piece of the tire cut out, waiting to be patched up again. To do this the flap of a big plug has to be forced in the aperture, straining the walls of the tire severely.

"Now, my methods are, solution for small punctures and rubber bands for larger ones. I'm a crank on rubber bands. They beat plugs all hollow and help a tire instead of hurting it."

"Funny, isn't it, how things come around?" said another of the party, also an ex-dealer. "When the Hartford tire first came on the market, away back in 1892, the regulation method of repair was by means of rubber bands. Elaborate instructions for using them were given out, but they did not work any too well, and in a short time somebody hit on the plugging method, and that was the last of the bands."

"But that was because neither tire making nor repairing was so far advanced as now," was the retort. "If they had been, people would still be using rubber bands."

The Original Suspension Wheel.

While both the English and the French claim the honor of having invented the suspension wheel—the former in 1826 and the latter in 1864—according to Alex Josephson, the credit really belongs to neither, as manuscripts left by a Spaniard, Leonardo da Vinci, a contemporary of Columbus, contain a sketch of a suspension wheel and an autographic note describing the device as one "by which wheels are strengthened and a light wheel made strong." This invention antedates 1490. A wheel in the National Museum in Washington is a reproduction from this sketch. The next record of a suspension wheel is found in the British Patent Office, where Theodore Jones, in 1826, filed his application for a patent on an "improved construction of carriage wheels of such nature that the weight they have to carry is suspended from that part of the wheel which happens to be uppermost, instead of being supported, as is usual, by the spokes that happen to be under the axle tree." All modern bicycle wheels are built on this principle.

After all New York will have a quadricentennial parade. The Associated Cycling Clubs of New York have taken the revived project in hand and fixed Saturday afternoon, July 12, as the date for the turnout. Trophies will be offered, of course, to draw out the greatest possible strength.

BICYCLES IN PERSIA

Making Headway Gradually but the American Consul Thinks Them Undignified.

"The conservatism of habit is much stronger in Eastern than in Western lands," says Vice-Consul General John Tyler, writing from Teheran, Persia. "The bicycle, under the most favorable conditions, is not a very dignified method of travelling, and in this country it has been looked upon as something mean and contemptible. It has, moreover, had to enter the lists against fascinating rivals—the beautiful Arab and Persian horses. However, utility and economy are now, with certain classes, questions of more pressing importance than formerly, and prejudice has given place to a more liberal and enlightened opinion; and those who previously opposed the introduction of the bicycle have come to appreciate its value as a substitute for the more expensive horse.

"The roads in and about Persian towns are perhaps not the best that could be devised, but the unpleasant features are being gradually removed. The roads which have been constructed by foreign capital to connect large centres of commerce are excellent.

"The increase in the number of bicycles within the last five years and the large demand for them show that they fill a decided want; yet one rarely finds them for sale, and I have no doubt, if a stock could be put on the market, that a considerable business would be done.

"The American machines, on account of the combination of lightness and cheapness, strength and durability, appear to be best suited for the country. Those of English manufacture are too dear. I am not in a position to recommend any particular make, but those that move with the least friction and exertion, and are simple in their parts and mechanism, would be preferred for the general trade.

"If American enterprise be energetic enough to enter this open door it might lead to trade expansion in other directions. Hitherto we have been content to supply a few articles through subsidiary channels, and have not reaped the reward of the commendation the goods have earned."

Shapes for Belts.

"One English rider does not agree with the theory that a round belt should be jammed into a V-section groove, and thinks that such a groove—made, as it usually is, with transverse ridges to secure "bite"—acts as a milling cutter to speedily wear out the belt. It is common knowledge that the smaller pulley on a motor becomes worn smooth in a short time, especially when wet sand from the road surface is thrown on to it and acts as a grinding medium, and this rider finds that a belt grips better and wears longer if the groove is made wide, of a semicircular section, with transverse cuts across it to prevent longitudinal slip. He has patented a pulley of this description.



The Successful Dealer

is the one who is always up with the times.

THOSE WHO HANDLE THE SMITH TWO-ROLLER SPRING SEAT POST

Are the ones who make and retain customers.

Every user an enthusiastic advertisement of its merits. Write us today.

RETAILS FOR \$1.50.
JOS. N. SMITH & CO., - Detroit, Mich.

CINCH

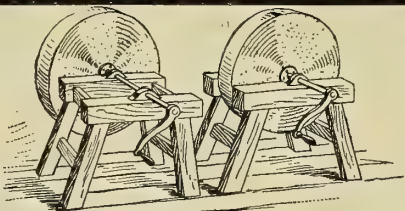
COASTS FREELY ON BEARINGS.

GROUND AFTER HARDENING.

Brakes Metal to Metal.

Drives Without Friction.

RIGGS-SPENCER CO., Manufacturers, Rochester, N. Y.



No. 1 (Bicycles) No. 2 (The Racycle)

Many thousand more RACYCLES SOLD in last 3 years than any other high grade bicycles.

Bearings under Crank Centers,
Sprockets in between Bearings,
No Leverage from Cranks,
No Side Pull on the Chain.
Mechanically Perfect.

No RACYCLES Given Away, Loaned, or Consigned. No Racing Teams Hired for Notoriety

RACYCLES

Ride further and faster, with 27 per cent. less pressure, than any other bicycles.

America's Most Expensive Wheel.

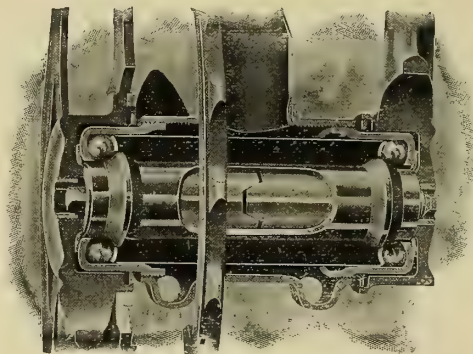
THE RACYCLE

Differs From a Bicycle.

THE HEART
OF A
BICYCLE



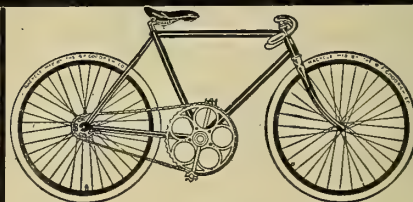
IS ITS
CRANK
HANGER.



NO OIL CAN REQUIRED.

Send for Prices and Catalogs.

THE MIAMI CYCLE & MFG. CO.
MIDDLETOWN, OHIO, U. S. A.



RACYCLE,
Pacemaker Model No. 70.

THERE ARE NO CHEAP RACYCLES.

Wide Bearings easily Adjusted.
Direct Pull on the Shaft.
Absolutely Dust Proof.
Magazine Self-Oiling.
1-4 Less Pressure on Bearings.

SECURE THE LABOR SAVING RACYCLE.

ALL BICYCLES ARE ALIKE.

RACYCLES

Only wheel that saves the rider's strength. Self-oiling hubs, pedals and crank hanger.

"MOTOCYCLES AND HOW TO MANAGE THEM"

REVISED EDITION

BOUND IN CLOTH

The only Book of the Sort in Existence

CONTAINS A MINE OF VALUABLE INFORMATION

PRICE, ONE DOLLAR

THE GOODMAN COMPANY

123-125 Tribune Building, - New York OKy

Schrader Universal Valve.

(Trade-Mark, registered April 30, 1895.)

—NOTICE—

Manufacturers of Bicycles, Jobbers and Dealers:

In order to facilitate the obtaining of

PARTS

of the

SCHRADER UNIVERSAL VALVE,

I have concluded to sell parts only to the general trade.



Parts 99-1, 99-2, 99-3, 99-4, may be had from all the makers, or from A. SCHRADER'S SON.

Price List and description of parts sent on application.

Simple and Absolutely Air-Tight



MANUFACTURED BY

A. SCHRADER'S SON,

ESTABLISHED 1844.

30 and 32 Rose Street,

NEW YORK, U. S. A.

COMPLETEST REPAIR TARIFF

Comes From California and is a Model of its Kind—No Job Left Unpriced.

The far famed climate of California has worked few greater wonders than the network of cycle trade organizations that dot the State.

While similar organizations have time and again been brought into being in other parts of the country, their life has been short and usefulness limited. In California, on the other hand, the organizations have maintained their existence, although their rules and regulations are far more sweeping and binding than is usual, and it probably is to this very stringency that their success is due. The keynote to the California system is a mutual agreement that non-members be sold goods only at full retail prices. Thus the dealer or repairer who is outside the fold is practically out of business before he starts.

The policy prevents unfair competition and all other throat-cutting, and keeps the trade clean and wholesome; more than this, it enables all to make living profits, and is responsible for this stiff and very complete repair tariff which has just been adopted by the Los Angeles Cycle Board of Trade:

AXLES.

Front .....	.50
Rear .....	.75
Crank	2.50
Pedal shaft.....	1.00
Lathe work, per hour.....	.75

BELLS.

Minimum25
---------------	-----

BENCH WORK.

Per hour.....	.60
---------------	-----

BRAKES.

Coaster, put on.....	\$7.00
Cinch (sold over the counter).....	5.00
A. B. C.....	5.00
Barwest	5.00
New Departure.....	5.00
Morrow	5.00
Duck roller.....	2.00
Duck roller, put on.....	2.25
Coaster-hub-and brake, 1901, put in..	7.00
Compound put in brake.....	.75

BRAZING.

Rebrazing hanger joints, air dry enamel	\$2.00
Lengthening "L" on seat post.....	.75
With brace.....	1.50

CEMENT

Jiffy10
-------------	-----

CEMENTING TIRES.

Cementing protection strip on tire, each .....	.50
Cementing tires to rims with soft cement .....	.25
Hard cement.....	.35
Cementing on to Dunlop or Clincher rims .....	.35

CHAINS.

Diamond, 45.....	\$2.50
Diamond roller.....	2.50
Diamond, 37.....	2.00
Diamond, 33.....	1.50
Minimum on cheap chains.....	1.35
Lefever or Baldwin of corresponding grade as Diamond at same price.	

CHAIN REPAIR.

Bolt .....	.10
Nut .....	.10
Link put in.....	.25
Link taken out.....	.25

CLEANING.

Bicycle, outside.....	.25
Bicycle, outside and washing chain...	.50
Bicycle, inside, all bearings and chain.	1.25
Tandem bicycle, outside.....	.50
Tandem bicycle outside, bearings and chains	2.25
Chainless	2.00

CRATING.

Bicycle and furnishing crate.....	.75
Bicycle uncrating.....	.50

CONES AND CUPS.

To order to 1 inch.....	\$1.25
To order, 1 1/4 in.....	1.50
To order to 1 1/2 in.....	1.75
To order to 1 3/4 in.....	2.00
To order to 2 in.....	2.50

CRANKS.

Crank key fitted.....	.25
Stock crank, keyed and nickeled, put on	1.00
Stock crank, keyed, not nickeled.....	.75
(Nickeling 25 cents extra).	
Key made to order or turned down..	.50
Crank, straightened, each.....	.25
Crank straightened, one piece crank..	.50
Welding on tip, not nickeled.....	1.00
Welding on tip, nickeled.....	1.25
Crank hanger bracket, put in "Faubert Special Hanger," air dry, \$5.50; baked	7.50

ENAMELING.

Frames and fork, black.....	\$3.50
Forks only .....	.75
Frame only.....	3.00
Frame and forks, tandem.....	6.00
Rims, per pair.....	1.00
Striping, plain on frame and forks...	1.00
Striping, fancy.....	1.50
Striping, fancy, on frame and forks...	1.50

FORKS.

Complete	\$5.00
Crown put in.....	3.50
Crown and fork sides put in.....	4.00
Crown and fork sides put in.....	4.50
Fork sides, both put in.....	3.50
Fork tip put in.....	1.00
Fork tip, both put in.....	1.50
Reinforced patch in stem or sides.....	1.50
Stem put in.....	2.50
Straightening fork crown.....	.50
Straightening fork sides.....	.50
Straightening stem.....	.75
Straightening sides, crown and stem.	1.25

FRAMES REPAIRED.

	Air dry.	Baked.
Cutting down frame only.....	\$5.00	\$7.00
Cutting down frame, dropping hanger	6.00	8.00
New head.....	3.50	5.50
New head lug.....	2.50	4.50
New centre strut.....	4.00	6.00
Rear fork, or brace.....	3.00	5.00
Both	5.00	7.00
Rail, upper or lower (new tube)	3.50	5.50
Rail, both tubes, new.....	5.50	7.50
Rail, one and centre strut.....	7.00	9.00
Rail, both and strut.....	9.00	11.00
Tube, one extra, with any of above	2.50	
Reinforced patch.....	2.50	4.00
Rebrazing joints, each.....	1.50	
Straightening frame.....	1.50	
Straightening rear forks only..	1.00	

GRAPHITE.

Small .....	.05
Large .....	.10
Special .....	.15

GRIPS.

Indestructable leather, put on, ...one	\$.25
Indestructable leather.....pair	.50
Cork .....	.15
Cork .....	.25
Soft rubber, put on.....pair	.75

GUARDS.

Chain, only, including plain lacing, with or without fittings.....	\$1.50
Dress, same.....	1.50
Chain and dress guards as above.....	2.50
Chain and dress guards with fittings.	2.75
Chain guard, relaced with cotton....	.25
Chain guard, relaced with silk.....	.50
Dress or wheel guard relaced with cotton .....	.50
Dress or wheel guard relaced with silk .....	.75

HANDLE BARS.

Chicago, plain, expander with grips..	\$1.50
Chicago, extension with grips.....	2.50
Kelly, plain.....	2.50
Kelly, extension.....	2.50
Rebending, plain bar.....	1.00
Rebending, ramshorn.....	1.50
Stem, new, for reversible, not nickelled	1.25
Stem, new, for stationary bar, not nickelled	1.00

HUBS.

Front, minimum.....	\$1.00
Rear, minimum.....	1.50

JIFFY TOOL, with cement.....

INSTALLMENTS.

Cash price.....	Installment price.....	Time at wd in months.	Payment on delivery..	Monthly payments
\$20.00	\$22.00	2	\$10.00	\$ 6.00
25.00	28.00	2	10.00	6.00
30.00	34.00	4	10.00	6.00
35.00	39.00	4	10.00	7.25
40.00	45.00	5	10.00	7.00
45.00	50.00	5	10.00	8.00
50.00	55.00	5	10.00	9.00
55.00	60.00	5	15.00	9.00
60.00	65.00	5	15.00	10.00
65.00	70.00	5	15.00	11.00
70.00	75.00	5	20.00	11.00
75.00	80.00	5	20.00	12.00
80.00	85.00	5	20.00	13.00
85.00	90.00	5	20.00	14.00

LEATHER GRIPS, per pair.....

LOCKS, minimum price.....

NICKEL PLATING.

Brake and lever.....	\$1.00
Chains	1.25
Cranks .....	.35
Crown only.....	1.00
Crown and ends.....	1.50
Forks, full nickel.....	2.50
Frame	7.50
Handlebar	1.00
Hub, large .....	.50
Hub, small.....	.35
Lamp bracket.....	.25
Nuts .....	.10
Pedal, each.....	.50
Saddle springs.....	.50
Seat post.....	.50
Spokes, each.....	.05
Sprocket wheel, front.....	.50
Sprocket, rear.....	.25
Steel rims.....	1.00

NUTS.

Large, made to order.....	\$.50
Small, to order.....	.25

OIL.

Bottles, minimum.....	\$.10
Can .....	.10
"3 in 1".....	.25
"Big 4".....	.25

PEDALS, minimum, per pair.....	\$1.25
PUMPS.	
Foot .....	.50
Hand .....	.25
RIMS.	
One, plain, put in with or without spokes	\$2.50
One, enameled.....	2.75
One, enameled, not put in.....	1.00
Plain .....	.75
Plain clincher rim.....	1.00
Clincher rim, enameled.....	1.25
Drilling rim, each.....	.25
SADDLES.	
Christy	\$2.00
Brooks, type.....	2.00
Cheap, minimum.....	1.25
Standard, padded.....	2.00
SEAT POSTS.	
Lengthening "L".....	.75
Lengthening "L," with brace.....	1.50
Plain, 8 to 10 inch.....	1.00
Plain, 6 inches long.....	.75
Berkey seat posts.....	2.00
SPOKES.	
Sprocket, taking off to put in spoke, 10 cents extra.	
Single tangent spoke put in.....	.15
2 put in.....	.25
3 put in.....	.35
4 put in.....	.45
5 put in.....	.55
6 put in.....	.65
7 put in.....	.75
8 or 9 put in.....	.85
10 or 11 put in.....	.95
12 to 14 put in.....	1.05
15 and up put in, each.....	.10
Respoeking wheel complete.....	2.00
Respoeking, including new enameled rim.....	2.75
Respoeking, including new plain rim.....	2.50
Colored, Dunlop, G. & J. or special rim.....	3.25
Lacquering spokes, each wheel, new spokes .....	.50
Lacquering spokes, each wheel, rusty spokes .....	.65
Lacquering spokes, both wheels, rusty spokes	1.25
Spokes and nipples, 5 cents each; 6 for .....	.25
SPROCKETS.	
Front, brazed to axle, 20 teeth or less.....	\$2.50
Rear, made to order, not over 10 teeth.....	1.25
Large sprocket wheels, extra price.	

TRUING WHEELS.

Single wheel.....	.25
Both .....	.50

TOE CLIPS, minimum.....	.25
-------------------------	-----

TIRES.

All tires guaranteed 60 days, not less than \$3 each; per pair.....	\$6.00
Minimum price on guaranteed for season, per pair.....	\$7.00
No tires to be sold less than, per pair.....	\$5.00
No old tires taken in exchange for new ones.	
No deduction allowed on second hand tires when new ones are sold.	
Casings, Tires, Tubes, sold over counter, deduct 25 cents each, except laced casings, for which deduct 50 cents each.	
Casings, Dunlop, each, put on.....	\$3.75
Casings, G. & J.....	3.75
Casings, Goodrich M. & W.....	2.75
Casings, M. & W.....	2.75
Dunlop tires, per pair.....	10.00
Defender, special.....	7.00
Fisk, No. 66.....	7.50
Fisk, No. 88.....	8.00
Fisk, Puncture Proof.....	9.00
Fisk, Tandem.....	9.00
Goodrich, No. 19.....	7.50
Goodrich, No. 19, Tandem.....	9.00
Goodrich, No. 19, Anti-Cactus.....	9.00
Goodrich, No. 999.....	9.00
Goodrich, No. 999, Anti-Cactus.....	10.00
Goodrich, M. & W.....	7.00
Goodrich, M. & W., Special.....	9.00
G. & J. Tires.....	10.00
Hartford, No. 70.....	7.50
Hartford, No. 77.....	8.00
Hartford, No. 75, Racer.....	9.00
Hartford, No. 80.....	9.00
Hartford Special.....	9.00
Hartford Thorn.....	9.00
Morgan & Wright.....	7.00
Morgan & Wright Cataplaro.....	9.00
Oxford	6.00
Oxnard	6.00
Palmer	10.00
Palmer Heavy Tread.....	11.00
Palmer Tandem.....	
Palmer Mexican.....	
Pennsylvania, No. 20.....	8.00
Pennsylvania, No. 30.....	9.00
Pennsylvania, No. 50.....	9.00
Pennsylvania Velvet.....	5.00
Pennsylvania Erie Crackajack.....	7.00
Raritan	6.00
Run Easy.....	7.00
Unguaranteed Tires.....	5.00
Vim Road.....	7.00

Vim Cactus.....	8.00
-----------------	------

TIRE REPAIRS.

Cementing on tire after making repairs, free.	
Using hard cement, 25c. extra.	
Cementing on one tire, soft cement..	.25
Cementing on one tire, hard cement..	.35
Cementing patch on outer casing and puncture repaired .....	.75
Cementing protection strips on tire..	.50
Clamp valve put on single tube.....	.65
Clamp valve, including vulcanizing old tire valve.....	1.25
Fitting new outer case.....	.50
Fitting new inner case.....	.50
Protection strips put on, each.....	1.25
Puncture repaired, using jiffy.....	.25
Puncture repaired, using plug.....	.25
Puncture repaired in double tube.....	.35
Puncture repaired in clincher tire.....	.35
Puncture proof solution in single tube tire, each.....	.50
Valve and stem on laced tire.....	.50
Valve, only.....	.25

TUBES.

Inner tubes, Dunlop.....	\$1.75
Goodrich, M. & W.....	2.00
G. & J.....	1.75
Hartford	1.50
Morgan & Wright.....	1.50

VULCANIZING.

Cuts, plugs, valve stems or rim cuts, not larger than one inch.....	\$1.00
Double cuts or punctures, two patches.	1.25
Revulcanizing old job.....	1.25
Repair of defective joints.....	1.25
Rim chafes (no leak).....	.75
Inside patch and one outside patch, two heats.....	1.25
Two patches on tread on rim side, not over six inches apart.....	1.25
Double tube tire, cuts, rim cuts in Dunlop, G. & J. or M. & W. casings.	.75
Extra for patch on inner tube.....	.25

WORK.

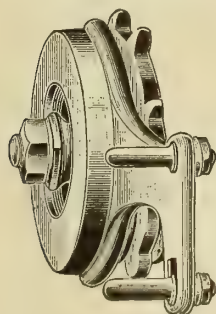
Where any kind of work has to be sent away to another city, not less than 50 cents express charges must be collected.
Bench work, 60 cents per hour.
Lathe work, 75 cents per hour.

WRENCHES.

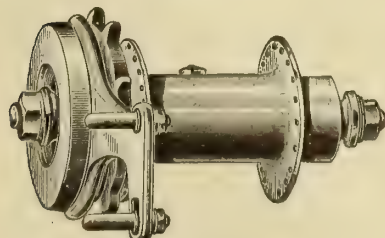
Minimum25
---------------	-----

WHEELS.

Front Wheels, minimum.....	\$3.50
Rear Wheel, minimum.....	4.00



DETACHABLE



UNIVERSAL.

PATENTED
June 12, Aug. 14, Dec. 25, 1900.
Feb. 19, Mar. 26, April 1, 1901.

Wyoma Universal

COASTER, BRAKE AND HUB COMBINED.
WILL FIT ANY BICYCLE. READY TO INSERT IN WHEEL BY LACING IN SPOKES.

Wyoma Detachable

MADE TO FIT THE LEADING STANDARD HUBS.
BOTH MODELS WILL ALLOW REAR WHEEL TO

RUN BACKWARDS.

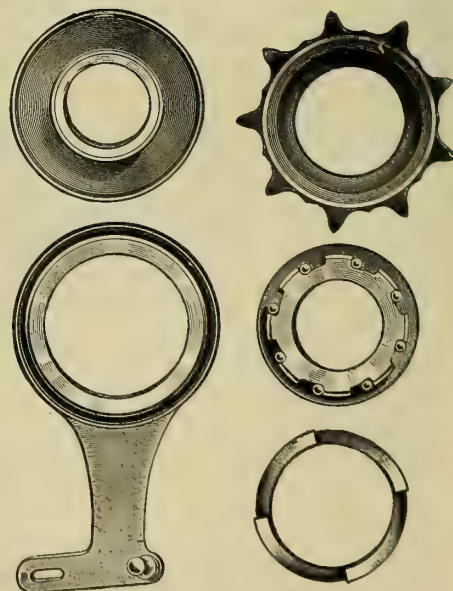
FIVE PIECES, SHOWING CONSTRUCTION OF 1902 MODELS.

NO FIBRES. NO BALLS.

FULLY GUARANTEED.

MANUFACTURED BY

Reading Automobile and Gear Company,
TENTH AND EXETER STS., READING, PA.



LAMPS AND OILS THEREFOR

One who is a Crank on the Subject Relates Some Valuable Experiments.

"As a practical experimenter and old cyclist I have been using cycle lamps since 1870, and have among my collection no fewer than three cycle lamps made from German silver, and put together in all joints with silver solder in my own laboratory, for experimental purposes with various illuminants," says C. R. Beaumont, in the C. T. C. Gazette.

"In the first place, I cordially indorse the statement 'that from some cause or other modern lamps are less efficient than those of some years ago.' Lamp makers formerly paid greater attention to the ventilation, and both the air inlets and outlets were constructed on sounder principles than is the case in the majority of the lamps of to-day. As an instance of this I may mention a lamp which was specially made for and presented to me in return for some suggested improvements in lamps at the time. Particular attention had been paid to the construction of the burner and the ventilation inlets and outlets, with the result that it gave a good, even light in almost all kinds of weather, and I never remember it to have been blown out on the roughest of nights. Unfortunately I lost it off the machine; I suppose someone took a fancy to it.

"Out of the whole lot of cycle lamps made at the present day there is not one that I would call an ideal lamp. The greatest number of them are faulty in the ventilation; others have not sufficient room in the combustion chamber; and others have a combination of faults too numerous to describe in detail. An ideal lamp is one that will throw a beam of light on both sides of the road and well ahead. The flame must also burn steadily and without flicker when riding over bumpy surfaces and during high winds. This ideal can only be attained in an oil lamp by close attention to the details of construction. The burner, combustion chamber, and the means of ventilation will have to be on scientific lines, and entirely different from the present forms in general use.

"I think one of the chief causes of trouble in lamps of the present day is the burner. Some years ago well made lamps were fitted with burners having a small spring impinging against the back part of the wheels which turn up the wick to prevent it from being jolted down into the oil well. This form of burner allowed the wick more freedom in the slot, as the toothed wheels did not compress it against the sides, and thus impede the capillary action of the oil among the wick fibres. The lamp burners of to-day depend entirely on the tightness with which the wheels press against the wick and the sides of the slot for preventing the wick from slipping down into the well when riding

over bumpy roads. This is a source of never ending trouble, as often the wheels are so tight in the slot that they jamb the wick; in fact, it is throttled in the neck. It is impossible to get a good light when this is the case. The best wicks for use in oil lamps are the special hollow or double woven, which allow the oil to ascend the centre. The wick must fit in the slot neither too tightly nor too slackly, but must have perfect freedom and turn easily both up and down when required. Lamp wicks should be made from absorbent cotton, and be perfectly dry when put into the oil.

"Some years ago, not being able to find illuminating oils to suit me, I instituted a series of experiments with the object of determining the most suitable oil or mixture for burning in the lamp I was then using. An eminent firm of oil manufacturers very kindly placed the facilities of their laboratory at my disposal, along with any samples



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

of oil I might require for testing purposes. As the said firm of oil manufacturers do not supply cycle oils as a specialty, and in any case would not sell less than a cask at a time, I cannot be accused of furthering their interests by giving them a free advertisement.

"As I have no trade secrets to guard, not being in the oil trade, I will give a few of the mixtures I found to burn very steadily, to give a good light with the least attention, and not to crust on the top of the burner. The old fashioned method of putting a piece of camphor in oil to improve its illuminating power increases the viscosity of the mixture and causes it to oxidize and thicken when left standing for a lengthened period, and also causes the lamp wick to require changing oftener, as the viscous mixture clogs the capillaries of the cotton fibre and prevents the oil ascending freely to the burner. A far better plan is to add cocoanut oil in the proportion of one-eighth to one-fourth part melted and shaken up with the lamp oil. Coconut oil has the property of burning with a brilliant white flame, and it gives off little or no smoke unless the

wick is very high. This oil is exceedingly limpid when melted, it gives a splendid light when burned alone, but it has the property of setting into a solid state, and on this account it cannot be used very well in cold weather, as it soon freezes in the oil well and requires melting at the time the lamp is lit; otherwise, in a suitably made lamp it is a good illuminant. Being very limpid when melted, it burns best when contained in an oil well that has a division for the wick in the centre, as the jerky motion of the lamp on rough roads causes the wick, if very loose in the burner, to become supersaturated with oil, and thus practically drown the flame at the point of combustion, especially if the oil well is full to the top.

"One of the best mixtures for regular use (except in frosty weather) is one part Stettin colza, one part cocoanut, and two parts of mineral colza, or what, I believe, is known in the trade as 300 degrees oil. This mixture gives an exceedingly brilliant flame, gives off little smoke, and requires very little attention to the wick if the lamp be kept in proper order. In very cold, frosty weather the quantity of cocoanut oil may be reduced by about one-half, as it is apt to get frozen, and requires melting before lighting up.

"Another good mixture which also answers well as a double purpose oil is our old friend vaseline, thinned down to a suitable consistency with 300 degrees mineral oil. What will our friends who condemn double purpose oils say about this mixture? I am sure they will not condemn vaseline for lubricating, yet it burns splendidly when thinned down with mineral colza as directed. There is no crusting of the wick, and no oxidation on standing in the well; it ascends the wick to the last drop, and the wick does not require changing, as with the viscous, fatty oils, and it gives out a good quality of light of high penetrating power if the lamp be kept fairly clean.

"Among the animal oils, neatsfoot may be mentioned as being a very good illuminant in the ordinary cycle lamp. The clarified or oily portion only should be used, after the stearine and denser fatty matter has been extracted. Mixed with from 10 to 15 per cent. of paraffine, or 300 degrees mineral oil, it gives out a good light and smokes very little. I have experimented at various times with many more mixtures and pure oils, none of which possess any advantages over the foregoing, with one exception, viz., a pure nut oil of fine quality, but rather expensive. The flame given by this oil was of a delightfully brilliant white color and powerfully penetrative force, with scarcely any smoke under any conditions; its viscosity is rather light, and in consequence it has no tendency to clog the wick; it is the illuminating oil par excellence, but I fear the price is almost prohibitive for ordinary use. I have found a special mixture of this oil to improve the qualities of mineral oil and reduce the tendency to smoke when burned in a paraffine lamp, but should like to make further tests and experiments with the various samples of paraffine cycle lamps before recommending it unreservedly."

RACING

There were no records broken at Vailsburg June 8; a howling wind made fast time impossible. Kramer, however, scored two victories, beating all the sprinters in the half mile open, and crossing the tape first, ahead of over thirty riders, in the five mile handicap. The meet was postponed from May 25, when the trial heats in the half mile professional and three of the six heats in the amateur half mile handicap were contested. Kramer, Fisher, Bedell, Collett, Krebs and Bardgett lined up for the final. Krebs and Bardgett had a lively sprint for the lap prize the first time around, the latter winning. Then the race for the big end of the purse began. Kramer took the lead, with Bedell on his rear wheel. Fisher was third, on the outside. Kramer gradually increased his speed and Bardgett and Krebs were shaken off. Just after passing the far turn there was a change in positions. Fisher started his sprint, and in an instant he was in the lead. Into the stretch he came, a full length to the good, with Kramer pulling, leading the others a merry pace. Half way up the straight it looked like Fisher sure, but the latter faltered and Kramer and Bedell both passed him. Collett was a close fourth. Time, 1:05. The interest of the day was centred in the five mile handicap, in which Bald was down as a starter. On the scratch mark with him were Kramer and McFarland, with Harold Mount 400 yards away. When the start was made Mount, who got going in a hurry, caught the scratch men, but the pace was too hot and he fell out of it after three laps. Alternating pace, Kramer, McFarland and Bald gradually gained on the leaders. Although Collett dropped back from the fifty yard mark and helped some, Bald did well for two miles, but his efforts told and he dropped out of it. On the last lap Kramer went to the front, as usual, setting his own pace. Both Hadfield and McFarland made play for Kramer's wheel, but the latter was there first and Hadfield was out of it. Kramer unbound at the far turn and began to draw away, with McFarland tacked on. Suddenly Fisher went around the field and assumed command, being two lengths in the lead. But he had Kramer to beat, and his lead was cut down at every stride. First Kramer, then McFarland, and finally Bedell, passed him, his position being fourth at the finish. The men stood as follows at the finish: Kramer (scratch), first; McFarland (scratch), second; Bedell (200 yards), third; Fisher (100 yards), fourth. Time, 11:03 2-5. Over fifty amateurs started in the two mile race. The start was a rolling one. The field was given a circuit of the track in motion before the pistol was fired for the actual start. Hurley jumped at once from the rear line and took his position in the leading bunch. The great field as it swept around the turns presented an inspiring sight. It moved freely and, though closely packed at times, not a spill occurred. At the bell Hurley took the

lead, and after that it was only Hurley to the finish. Hurley first, Billington second, Welsing third, Glasson fourth; time, 4:37 2-5. Hurley was also the winner of the half mile handicap. In this race, too, his victory was clean cut. Harry Welsing was second, and Monte Rutter and Forrest were third and fourth, respectively. Time, 1:00 2-5. The unlimited pursuit race between George Glasson and Charles Schlee was won by the former; distance, $3\frac{3}{4}$ miles; time, 8:56. There were 7,000 persons present.

After a wait of nearly an hour and a half, because Walthour's new tandem was not at the track, 6,000 persons at Boston, June 5, saw Champion establish new world's records for every mile from the fifteenth to the twenty-fifth, inclusive. He did the distance in 37:15 3-5. From the ninth mile to the finish, in which distance Champion was leading, every mile, except the seventeenth, eighteenth and nineteenth, was done in less than 1:30. Up to the ninth mile Elkes led, and his time for the fifth, sixth, seventh and eighth was under 1:30. It was intended that the contest should be a team race, with Champion and McFarland on one side and Elkes and Walthour on the other. The Elkes and Walthour contingent could not agree on how the money would be divided, and as a result it was decided that the race would be a free-for-all. The riders got off to a good start, with Elkes in the lead. McFarland, who was pole man at the start, found the pace very hot on the first lap and lost his pace for a short distance on the backstretch. He quickly pulled up, but Champion and Walthour had passed him and he brought up the rear. Walthour deliberately sat up and quit after riding one lap. At the end of a mile Elkes was leading Champion by five yards. The second mile found him ten to the good. On the next mile Elkes opened the gap to forty yards. At five miles McFarland was almost half a lap behind. Champion tried to pass Elkes, but was forced to fall back, for the pace was very near the track limit. Elkes continued to lead until the first lap of the ninth mile, when Champion, who had fallen back fully sixty yards, came up with a rush and went by Elkes as if he was standing still, despite the fact that Elkes was going at a 1:26 clip. Once in front Champion began to open up on Elkes, who appeared to be having some trouble. At ten miles Champion was leading by 100 yards and he lapped McFarland. On the eleventh mile Elkes fell back from his tandem and he went out and reeled off several laps at a hot clip unpaced. The rear tire of the tandem had worn down to the fabric, and particles of the rubber, as fast as they became detached from the tire, were dashed into his face and eyes, forcing him to drop the machine. Before he was picked up he was lapped by both Champion and McFarland, and was out of the race as far as the money was concerned. Champion lapped McFarland for the second time at the thirteenth mile, and on the twenty-fourth mile he lapped both Elkes and McFarland.

The professionals were seen at the Hartford track June 9 for the first time this season. Kramer did not have much trouble in winning the half mile race. Bald, who was supposed to make things interesting, failed to qualify in his heat. In the two mile professional handicap Bald quit when he saw he could not catch the bunch, and R. M. Alexander crossed the tape a winner. There were only about 1,200 people present, owing to the cold weather. The summaries are as follows: Half mile open professional, in four heats, two semi-finals and final—Kramer, first; Fisher, second; Collett, third; Cadwell, fourth; time, 1:06 3-5. In the two-thirds mile amateur handicap, three heats and a final, M. J. Madden (60 yards) was first; T. P. Davis (35 yards), second, and F. Ernest (10 yards), third; time, 1:22. The two mile professional handicap was run off in two heats and a final. Alexander, with 200 yards, was first; Carni (210 yards), second; Bedell (200 yards), third, and Krebs (180 yards), fourth; time, 4:08 2-5.

At the Crystal Palace track, London, on May 23, C. A. Barnes, mounted on a Mitchell 2 horse power motor bicycle beat the performance of G. Vernor Rogers, recently accomplished for a five mile spin, on the same track, by 26 2-5 secs. Barnes's times were as follows: One mile, 1 min. 50 1-5 sec.; two miles, 3 min. 31 3-5 sec.; three miles, 5 min. 12 2-5 sec.; four miles, 6 min. 53 3-5 sec., and five miles, 8 min. 37 2-5 sec.

On the day following W. R. Martin, on an Excelsior, reduced the times to the following figures: One mile, 1 min. 39 1-5 sec.; two miles, 3 min. 8 3-5 sec.; three miles, 4 min. 40 3-5 sec.; four miles, 6 min. 12 2-5 sec.; five miles, 7 min. 45 1-5 sec.

Following this came a trial by F. W. Chase on a new pacing single with a $4\frac{1}{2}$ horse power motor. The times returned were: One mile, 1 min. 36 1-5 sec.; two miles, 3 min. 1 sec.; three miles, 4 min. 26 2-5 sec.; four miles, 5 min. 51 1-5 sec., and five miles, 7 min. 16 1-5 sec., the last mile being ridden in 1 min. 25 sec.

McLean won the three cornered twenty-five mile motor paced race at Providence June 4, defeating McConnell and Fenn. For the first five miles it was an exciting contest, but McLean, who drew the pole, rode to win. In the twelfth mile the rear tire on McConnell's pacing machine blew up and there was a lively spill. No one was seriously hurt. McConnell pulled himself out of the mess and mounted his extra wheel, being towed the rest of the way by a single motor. Fenn had trouble with his motors and did not figure, withdrawing in the sixteenth mile. McLean beat McConnell by one mile and three laps.

The Board of Control of the National Cycling Association has not yet got rid of the troublesome question as to how pacing motor cycles shall be equipped so far as pedals are concerned.

It no sooner ruled against the use of ec-

Have You Received Your Invitation

TO THE

METROPOLE CYCLING CLUB'S RACE MEET?

It will be a "Whopper."

MANHATTAN BEACH
TRACK,

Saturday, June 21, 3 p. m.



ADMISSION BY
INVITATION ONLY.

Amateur Events.

ORIENT TRY-OUT FOR NOVICES, one-quarter mile. First prize, Orient Bicycle.

COLUMBIA HANDICAP, two miles. First prize, Columbia Motor Bicycle, \$175, and Metropole Blue Ribbon.

YALE FIVE MILES. First prize, Yale racer with Yale roadster to winner of greatest number of laps.

Professional Events.

SEASIDE DASH, one-third mile. Purse \$100.

METROPOLE SWEEPSTAKES, five-mile handicap. Purse \$200, with entry fees added. Metropole Blue Ribbon to winner.

ATLANTIC INVITATION PACED RACE, 20 miles.

For Entry Blanks or Invitations,
address

S. W. MERRIHEW, Chairman,

124 Tribune Building, NEW YORK CITY.

centric pedal cranks and in favor of the straight cranks than some of the men set about other schemes to evade the spirit of the law.

The board had ruled that straight pedal cranks should be used, but it had not said how long or short these cranks should be. It was the loophole that Walthour and his managers took advantage of, using a crank between three and four inches long. The feet of the rear man did, of course, revolve. He pedalled, but the circle his feet described was small indeed, almost as small as when the eccentrics were used, and Walthour reaped the benefit.

Two thousand spectators saw de Guichard defeat Leander two straight heats in a ten mile motor paced heat race at Washington June 4. In the first Leander led for the first five miles, and de Guichard the other five. Leander's pace went wrong, and in making the change he lost his lead, which he was not able to regain. In the second heat Leander lost his pace in the first mile, de Guichard immediately going to the front by a lap in the first mile, and at the finish being three laps to the good. De Guichard's time in the first heat was 16:48 2-5, Leander's 17:03 1-5; second heat, de Guichard 15:47, Leander 16:56 2-5. The two mile motor tandem race was very closely contested, Fred Sinclair and Edward Zimmerman finally capturing the event by half a length, the advantage being gained only in the last quarter lap. Time, 3:01 2-5.

At Baltimore, June 3, Freeman won in two straight heats from de Guichard, but the Frenchman got the money, as under the conditions Freeman was to have beaten de Guichard three laps in each heat of ten miles, but in this Freeman failed, for in the first heat de Guichard was defeated by a lap and a quarter, while in the second he lost by a few yards over a lap. Freeman's time for the first heat was 15:03 3-5. In the second heat he lowered the best previous record of 14:49 3-5, made by Elkes at the Pan-American Exposition last year, to 14:47 4-5.

Albert Champion clipped two-fifths of a second off the ten mile motor paced bicycle record at Baltimore, June 10. He won easily from George Leander in straight heats. Time, 14:57 4-5 and 14:47. Freeman's best time for the distance was 14:47 2-5, made on the same track last week.

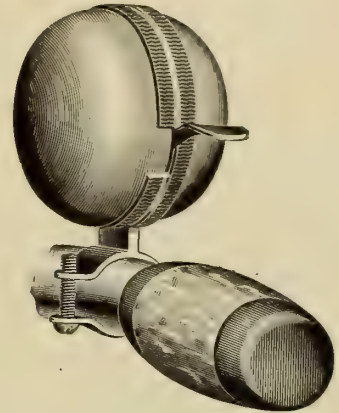
On the Revere track, Boston, June 9, Albert Champion, who is now in rare form, defeated Walthour by one and one-half miles in a twenty-five-mile motor paced race. Time, 38 minutes 35 2-5 seconds. Walthour twice had trouble with his motor, which accounted for the margin of his defeat.

At Pittsburg, June 9, Howard Freeman defeated Benjamin Monroe, best two in three heats of ten miles each, in 15:14 2-5 and 15:01,

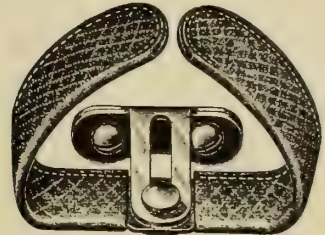
THERE ARE SO MANY
Sizes, Styles and Prices

—OF—

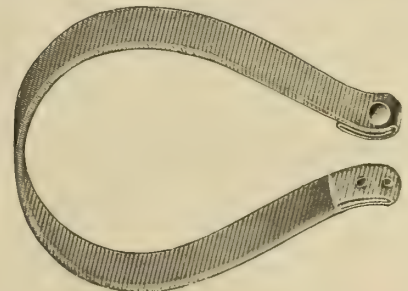
BEVIN BELLS,



TOE CLIPS,



Trouser Guards,



and lamp brackets, that there is no reason why any customer should "get away" from any dealer who keeps them in stock. For the same good and sufficient reason all dealers should keep the goods in stock.

BEVIN BROS. MFG. COMPANY

EAST HAMPTON, CONN.

FOUNDED 1832.

The Week's Exports.

England took upward of \$14,000 worth of American cycle stuff last week and easily topped the manifest. Only France and Germany made any other considerable purchases, \$4,400 and \$4,000, respectively, the record in full being as follows:

Antwerp—3 cases bicycles and material, \$160.

Amsterdam—1 case bicycle material, \$111.

British West Indies—1 case bicycles, \$35.

Brazil—1 case bicycles, \$25.

Bremen—1 case bicycles, \$10.

British West Indies—40 cases bicycles and material, \$1,778.

British possessions in Africa—5 cases bicycles and material, \$380.

Belfast—1 case bicycles, \$40.

Copenhagen—62 cases bicycles, \$1,077; 12 cases bicycle material, \$1,000.

Christiania—1 case bicycles, \$30; 5 cases bicycle material, \$220.

Dutch Guiana—34 cases bicycles and material, \$874.

Egypt—4 cases bicycle material, \$105.

Ecuador—1 case bicycles, \$40.

Glasgow—16 cases bicycles, \$280.

Genoa—23 cases bicycle material, \$625.

Hong Kong—1 case bicycles, \$16.

Havre—61 cases bicycles and parts, \$4,401.

Hamburg—35 cases bicycles, \$955; 52 cases bicycle material, \$3,035.

Liverpool—131 cases bicycles, \$1,888; 8 cases bicycle material, \$336.

London—131 cases bicycles, \$6,270; 73 cases bicycle material, \$3,222.

Malta—4 cases bicycles, \$60.

Manchester—1 case bicycle, \$100.

Naples—1 case bicycles, \$60.

Mexico—6 cases bicycles and material, \$274.

Oporto—2 cases bicycle material, \$30.

Peru—1 case bicycles, \$39.

Philippines—26 cases bicycles and parts, \$650.

Rotterdam—27 cases bicycle material, \$1,372.

Southampton—61 cases bicycles, \$1,350; 44 cases bicycle material, \$1,976.

The Retail Record.

Bristol, R. I.—William N. Hood opened store at 304 Hope street.

Hyannis, Mass.—Clarence A. Phinney opened shop.

Dover, Me.—Warren & Blethen, machinists, added bicycle repairing.

Quincy, Ill.—D. E. Brown, fire; loss, \$2,000; insurance, \$800.

Williamsport, Pa.—George Hilliek opened shop on William street.

Seaford, N. Y.—Otten Brothers opened store.

At its last meeting the Alpha Motor Cycle Club elected the following additional officers: Vice-president, E. J. Willis; Board of Governors, A. Van Iderstine, George P. Jenkins, E. L. Ferguson, Dr. Henry A. Baker, G. W. Behrman, H. P. Matthews and George A. Smith.

Long Suffering Parts.

"It is astonishing what abuse cycles and their parts will stand without actually refusing to work any longer," remarked a rider. "They seem to endure such treatment until matters reach a point where endurance can go no further.

"I had an experience of this sort with a pedal," he went on. "It had been run for more months than I can remember without being lubricated. One day I noticed that it showed a tendency to stick. I kicked at it two or three times with my foot as I rode along, and saw that it would scarcely revolve at all. So I made up my mind to put a few drops of oil in it when I got home.

"The matter slipped my mind, however, and it was recalled only when I took my next ride. There was the same sticking tendency, whether worse or not I could not tell. The pedal would go around as long as I kept my foot on it, but it did not want to do so. If I took my foot off it stuck, and I even began to fancy that I could hear a faint screeching in the bearing as I pedalled. So I made another resolve to oil it, and forgot it when I got home.

"This thing was kept up for several months. What puzzled me was why it did not stop altogether. If for want of lubrication the bearing ran hard it seemed to be reasonable to assume that it would go from bad to worse and finally come to a stop. But it never did.

"At last one day I took the pedal apart and oiled the bearings. The balls were as dry as a bone and bright and highly polished. Evidently they had been in that condition for a considerable time. But the cups and cones were in perfect condition, showing no signs of wear."

Two Letters From One Man

THE ROYAL MOTOR WORKS,
New York City.

WASHINGTON, D. C., May 9th, 1902.

DEAR SIR:—My ROYAL arrived last week and I am pleased with its satisfactory running condition. I rode 54 miles over the road Sunday without a look at the machine. It ran perfectly. Very truly, G. GORDON BAILEY.

ROYAL MOTOR WORKS,
New York City.

WASHINGTON, D. C., June 3d, 1902.

GENTLEMEN:—I have now ridden my ROYAL Motor Bicycle 782 miles and it certainly is all right.

Yours very truly,
G. GORDON BAILEY.

For Catalogue or Agency,
address

ROYAL MOTOR WORKS

29-33 West 42d Street,
NEW YORK.

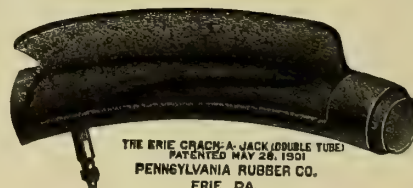
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK

BUFFALO

CHICAGO

PHILADELPHIA

BOSTON



MOORED

THE INDUSTRIAL MACHINE CO.

Manufacturers of the

DeLONG MOTORCYCLE

Formerly of PHOENIX, N. Y.

are now
located in

SYRACUSE, N. Y.

OFFICE AND FACTORY,

Cor. of WATER and GRAPE STS.

This is the DeLONG



PRICE \$200.

Have you applied for
the agency? If not
DO IT NOW.

INDUSTRIAL MACHINE CO.

SYRACUSE, N. Y.

Seeking Trade in Spain.

An extract from the annual volume entitled "Commercial Relations of the United States," which has been made public at the State Department by Mr. Frederic Emory, chief of the Bureau of Foreign Commerce, gives the information contained in the annual reports of United States consular officers in Spain and in Italy. Our trade with Spain, it says, could be greatly enlarged if a favorable commercial treaty was negotiated. United States Minister Storer, who is about to return to Madrid, will endeavor to negotiate such a treaty.

American goods, according to Vice-Consul Wood, of Madrid, are to be met with in the most unexpected places in Spain. There is no prejudice against United States goods, and inquiries are constantly received for them.

Consul Ridgely, of Malaga, says our trade could be more largely developed if we had a favorable commercial treaty with Spain, and if we would send enterprising commercial salesmen, with a knowledge of the Spanish language.

Consul General Lay, of Barcelona, thinks that a still better way to develop our commercial relations with Spain would be to establish a permanent exhibit of American articles, and he is now endeavoring to open such an exhibit, either in Barcelona or in Madrid. The introduction of any article into Spain is more difficult than in most countries in Europe, as the people, as a rule, are not quick to see the advantage of modern appliances.

The Vice-Consul at Milan, H. P. Smith, gives valuable advice to United States exporters as to trade methods in Italy and the means of extending our own commerce in the country. The consulate, he reports, time after time has attempted to initiate trade relations between American firms and Italian dealers, but the transaction usually falls through on the question of cash payment. The United States house thinks it is too far away to give credit, and the Italian dealer thinks he is too far away to pay cash without an opportunity of seeing and testing what he buys. Personal visits at opportune times, he says, are an effective method of gaining trade, and if the importer is treated well the Italian will remain a satisfactory customer.

Consul Grout, of Malta, notes that our bicycles hold the trade in that island, and our typewriters are the only ones sold there.

OILERS.

"PERFECT"



25c.

"GEM"



5c.

"LEADER"



10c.

"CROWN"



5c.

"STAR"



10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs., 240-2 W. 23d St., N. Y.

Watch that Rider

cross those car tracks.

See him jolt out of
his saddle ?

He is
NOT

mounted on a

CUSHION FRAME BICYCLE

It prevents such jolting
and all other such
discomforts.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

The Only Tires Fit For Motor Bicycles—

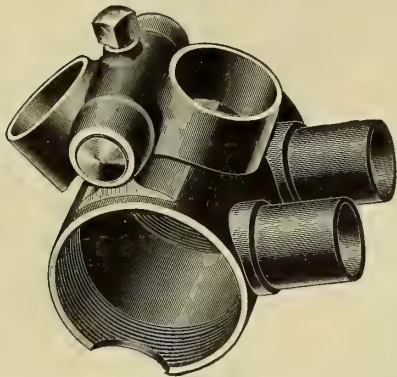
GOODYEAR DETACHABLES

Fit Any Rim.

GOODYEAR TIRE & RUBBER CO., AKRON, OHIO.

Fauber Hinge Bracket

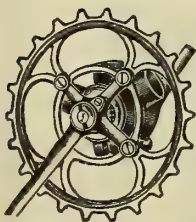
**for Cushion and Spring
Frame Bicycles.**



The hinge parts are made of forgings. Bearing points are wide apart lessening chance for lost motion. The hinge pin is a hardened and ground taper pin. Bracket for 1 1/8 in. and 1 in. tubing fitted to all styles

FAUBER HANGERS

FAUBER MFG. CO., - Elgin, Ill.



"D. & J." HANGERS

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

—AND—
The 1902 Light Weight Oil Lantern.
STANDARD BICYCLE LAMPS OF THE WORLD.
MANUFACTURED BY
THE NATIONAL CEMENT & RUBBER MFG COMPANY,
Toledo, Ohio, U. S. A.
Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

CONTRACT WORK WANTED — We have purchased all of the machinery of the Shelby Cycle Plant, and have screw machines, automatics, punch presses and lathes, which are idle at present. We therefore desire to take contract work in quantities at a low price. Part of the machinery and two tons of leather belting we offer for sale. Correspondence invited. A. W. GUMP & Co., Dayton, Ohio.

FOR SALE — Cleveland tricycle, \$100, cost \$350; Orient tricycle 3 1/4 water-cooled head, 2 1/2 in. G. & J. Tires, \$200, cost \$450, fine condition. HARRY R. GEER, 1017 Pine St. St. Louis, Mo.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

IDEAL HANDLE BARS

made in all shapes with extensions in 2 1/2 inches, 3 1/2 inches and 5 1/2 inches forward throw. Also with straight stems with and without internal binders. The cheapest bar on earth, quality considered. Sole manufacturers

IDEAL PLATING CO.,
3 Appleton Street, BOSTON, MASS.

You all know what the diamond stands for among precious stones. You can't well afford not to know that

D-I-A-M-O-N-D-T-I-R-E-S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

Wolff-American Bicycles.

STEARNS BICYCLE AGENCY,

General Distributors,
SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

The Week's Patents.

701,319. Primary Battery. Eugene M. Fishell and William M. Clymer, Cleveland, Ohio, assignors to National Carbon Co., Cleveland, Ohio, a corporation of New Jersey. Filed Oct. 14, 1901. Serial No. 78,550. (No model.)

Claim.—1. In a voltaic cell, in combination, a combined containing vessel and negative electrode, an annular perforated partition within said vessel electrode mechanically and electrically connected to the bottom thereof, depolarizing material packed in the space between said partition and vessel electrode, an exciting solution in said vessel, a zinc electrode immersed in said solution, a cover sealed to said vessel, a vent for said vessel above the exciting solution, and means for opening and closing said vent, substantially as specified.

701,348. Construction of Courses or Tracks for Cycling. Charles H. Jones, Wood Green, England. Filed Aug. 26, 1901. Serial No. 73,301. (No model.)

Claim.—1. In a bicycle track, the combination with a series of inclined battens each having one end resting on the floor or ground, of curved horizontally disposed cross pieces secured to said battens, and forming therewith an endless track, braces extending outwardly from the upper portions of said battens, and having their lower ends engaging the floor or ground, and means for preventing the lower ends of said battens from slipping outwardly, substantially as described.

701,379. Vehicle Wheel. Denis H. O'Meara, Worcester, Mass. Filed Feb. 16, 1901. Renewed Nov. 4, 1901. Serial No. 81,078. (No model.)

Claim.—1. In a vehicle wheel, the combination with an inner rim to which the spokes are secured, of a supplementary rim removably secured to and bearing against said inner rim; an annular series of double flat metallic springs removably secured to said supplementary rim; an encircling metal band removably secured to said springs, and an outer composite tread of metal and flexible material, removably secured to said encircling metal band.

701,390. Bicycle Saddle. John M. Provoost, Buffalo, N. Y. Filed Dec. 13, 1900. Serial No. 39,594. (No model.)

Claim.—1. A bicycle saddle the seat or body portion of which consists of plates separated or divided transversely of the saddle and which together form the support for carrying the weight of the rider, in combination

with means to support said plates independently and elastically from a common support, substantially as set forth.

701,434. Vehicle Tire. George A. Weidely, Indianapolis, Ind., assignor to the G. & J. Tire Co., Indianapolis, Ind., a Corporation of Indiana. Filed Oct. 8, 1901. Serial No. 77,948. (No model.)

Claim.—1. The combination in a vehicle wheel of a tire open on the under side and having ribs adjacent to the open portion, the inner surfaces opposite said ribs being inclined or tapered, an inner supporting band formed to rest upon said inclined or tapered surfaces, and a channeled wheel rim or felly composed of two parts adapted to fit over the ribs on the tire, one part being adjustable toward and from the other, whereby the tire may be firmly grasped between the parts of the rim or felly and the inclined surfaces of the inner band, and also conveniently released therefrom.

701,437. Bicycle Handle Bar Grip. Benjamin F. Wheeler, Detroit, Mich., assignor to the Wheeler Manufacturing Co., Detroit, Mich., a Corporation. Filed May 27, 1901. Serial No. 62,102. (No model.)

Claim.—1. In a device for the purpose set forth, the combination with an oblong core adapted to be secured to the end of a handle bar and having an exterior channel extending longitudinally along its opposite faces and around its outer end; of a covering of two members sewed together by through stitches near their edges with their outer faces in contact and placed upon the core with the projecting margin of the seam lying in said channel, and a socket ferrule surrounding the inner open end of the core and the inner end of the covering and clamping these two parts together.

701,695. Electric Igniter for Explosion Engines. Emmery H. Fahrney, Chicago, Ill. Filed Sept. 10, 1900. Serial No. 29,508. (No model.)

Claim.—1. In an electric igniter the combination of the electrodes, means for separating the same, a friction clutch having its driven member operatively related to one of said electrodes for bringing them together and closing the circuit there through, a positively moving dog engaging the driving member of said clutch for rotating the same, a cam or trip for releasing said dog from said driving member, a slide to which said cam or trip is connected and means for adjustably securing said slide in place, substantially as set forth.

701,696. Bicycle Support. Henry M. Falcona, Rockland, Me. Filed March 6, 1902. Serial No. 96,985. (No model.)

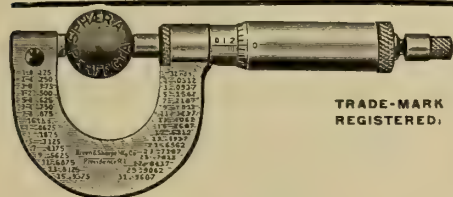
Claim.—1. In a device of the character described, the combination with a block, means for clamping it to a bicycle frame, and a stop carried by said block, of a wheel holder consisting of two arms pivoted to said block and adapted with their lower ends to grasp the steering wheel and hold it against movement and having their upper ends screw threaded, a bar having apertures through which the screw threaded ends of said arms project and formed with screw threaded sockets, nuts engaged with the said screw threaded ends, and coasters or foot rests having screw threaded ends to engage the screw threaded sockets, substantially as set forth.

701,748. Bicycle Driving Mechanism. George W. Manson, New York, N. Y. Filed Nov. 17, 1900. Serial No. 36,844. (No model.)

Claim.—The combination of a suitable cycle frame, a pair of pendent pedal levers hung from their upper ends to the frame so that they swing forward and back in paths which are mainly in the rear of a vertical line from their fulcrum pivots in the forward part of the frame, pedals mounted on the lower ends of said levers, connecting rods pivoted to the pedal levers at their forward ends, crank arms to which the rear ends of the connecting rods are respectively pivoted, a crank shaft on the extremities of which the crank arms are mounted, gear wheel keyed thereon; gear wheel driven by the wheel shaft on which the wheel is fixed; gear wheel also fixed on shaft; pinion driven by the wheel; shaft on which the pinion is fixed; gear wheels of different diameters fixed on the shaft and driven thereby; loose pinions driven by the wheels, respectively; and having clutch teeth on their opposed faces; sprocket wheel shaft on which the pinions are loosely mounted; sprocket wheels and chain transmitting motion from the shaft to the drive wheel; sliding clutch sleeve splined on shaft so as to drive the same; and means for shifting the said clutch sleeve into engagement with either of the pinions or out of engagement with either so as to drive the sprocket wheel shaft at variable speed or permit it to run free, substantially as described.

701,761. Cycle Propelling Mechanism. Christian Olson, Stoughton, Wis. Filed March 1, 1901. Serial No. 49,454. (No model.)

Claim.—1. In a bicycle propelling mechanism or the like, handle bars having independent oscillating movement, a connecting lever having connection with each of said handle bars whereby movement of one is transmitted to the other, and operative connection between said handle bars and the driving wheel.



STEEL BALLS

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

- That every ball is a perfect sphere.
- That every ball is within 1-10,000 of an inch of exact size.
- That the balls are made of the best quality of true crucible tool steel.
- That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

The H. A. Matthews Mfg. Co.

MANUFACTURERS OF

BICYCLE FITTINGS

of all description and of the finest quality,

SEYMOUR, CONN., U. S. A.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

*Electric Lighted—Chicago,
St. Paul and Minneapolis*

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

*Fast time to Marquette
and Copper Country*

NO change of cars. The best of everything. Call on any agent for tickets or address

481 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburgh
388 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.



RELIABLE NEWS
- ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.
Unbiased opinions on mechanical matters.
WEDNESDAYS, ONE PENNY.
Through all Bookstalls and Newsagents or from the
Publishers
ILIFFE & SONS Limited,
3, 91 Bridge Street, London, E.C.
and NEWFORD STREET, GLOUCESTER.

THE BICYCLING WORLD

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from St. Thomas to Chicago. Both trains run daily and are made up of the most modern and luxurious vestibuled Sleeping Cars. For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence, Waterloo, Webster City, Fort Dodge, Rockwell City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars, free reclining chair cars, dining cars. Tickets of agents of I. C. R. R. and connecting lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago

**St. Louis, St. Paul,
Minneapolis**

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all Through trains.

For tickets and information apply at any principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, June 19, 1902.

No. 12

AMENDS BANKRUPTCY ACT

Congress Tinkers With the Much Abused Law but Refuses to Repeal it.

One of the most important measures that has come up before the National House, was that amending the existing Bankruptcy law, which had its hearing on Tuesday. The vote to repeal the present law in toto was overwhelmingly defeated by a vote of 65 to 137.

When the discussion began Mr. Ray, chairman of the Committee on Judiciary, said that 20,000 resolutions and communications from manufacturing and producing industries, merchants', credit men's and other business associations, lawyers, judges and business men generally approving the existing Bankruptcy law, asking its retention and approving the amendments suggested by the bill, had been before the Judiciary Committee.

A new section was proposed by Mr. Ray, and carried, as an additional section to the Bankruptcy law, providing that where a debtor waives to his creditors the exemption accorded by the laws of his State the bankruptcy court shall not hereafter set aside to him the property so exempt.

The bill as passed amends the law in fifteen particulars to meet defects which, it is said, experience has proven. The most important amendment is one to define preference, to meet the Supreme Court decision in the case of Pirie vs. the Chicago Title and Trust Co. Four additional grounds for refusing a discharge in bankruptcy also are added: First, obtaining property on credit on materially false schemes; second, making a fraudulent transfer of property; third, having been granted or denied a discharge in bankruptcy within six years, and fourth, having refused to obey the order of the court or refusal to answer material questions approved by the court.

Hall Will Invade New England.

The E. H. Hall Co., Rochester's big jobbers, are preparing to establish a branch in Boston. The fact will doubtless create something of a flurry in the New England trade.

Helped A. B. C. Stocks.

Some one in Boston awoke last week and wired to all the chief papers of the country the six-weeks' old "news" that Col. Albert A. Pope had obtained control of the American Bicycle Co., and that John D. Rockefeller was associated with him in the movement that led to Col. Pope's reascendency. Although the story as stated had been printed weeks previously, its republication caused a mild rush for A. B. C. securities. Some 5,400 shares of common stock were sold on Monday at 6¼ to 7½. On Tuesday 1,600 of common at 7¼ to 7½, and 300 shares preferred at 23 to 23½.

Two Plants Transferred.

The Hart & Cooley sheet steel mill, Chicago, which has formed one of the units of the Automobile & Cycle Parts Co., Cleveland, has been relinquished by that corporation and reorganized as the Columbia Steel Co., and the business will be transferred to Elyria, O. The directors of the new company are substantially the same as those of the old one. The Parts Co. has also given over the Hunt plant at Westboro, Mass., to the Worthington Mfg. Co., which will continue the manufacture of golf and leather goods.

Echo of Long Ago.

Wesley C. Dudley, referee in the assignment of the Spaulding Machine Screw Co., Buffalo, has notified all creditors that claims must be presented on or before June 28 next. The failure occurred so long ago that the referee's notice is in the nature of an echo from the "shrouded past."

Barrett to Join Eccleston.

It is reported that M. F. Barrett, superintendent of the William Hengerer Co.'s assembling plant, at Buffalo, has resigned. The same report says that he will join Former Manager J. B. Eccleston in the automobile business.

Gets Exclusive Agency for Tubing.

The Automobile & Cycle Parts Co., of Cleveland, have been appointed sole American sales agents for Shelby bicycle tubing. No other tubing is involved in the arrangements, as some reports would have believed.

NEW YORK AND CHICAGO

Ambitious Project Launched to Connect the Two Cities with Macadam Road.

That oft-mooted project, a national highway from the Atlantic to the Pacific, was revived in modified form on Monday of this week, when the New York and Chicago Road Association was brought into being in this city. The idea in mind is, of course, a macadamized road between the two cities named.

The road now commonly used in travelling to Chicago, by way of Albany, Buffalo and the lake shores, is 987 miles long. The proposed route is 850 miles long, and of this distance about 400 miles is now represented by existing good roads.

It is proposed to form local organizations to further the project. A convention will be held in Atlantic City during the L. A. W. meet, July 18, when further plans will be developed.

The officers of the association are Col. Albert A. Pope, president; John B. Uhle, president of the Highway Alliance, first vice-president; L. C. Boardman, New York, second vice-president; W. L. Dickinson, Springfield, Mass., treasurer; A. H. Beatty, New York, secretary. The executive board will comprise the officers named and the following: Lieut-Governor Timothy L. Woodruff of New York; Winthrop E. Scarritt, president of the American Automobile Association; F. C. Donald, president of the Chicago Automobile Club; W. S. Crandall, of Minnesota, secretary of the Road Makers' Association; W. A. Rockwell, president of the League of American Wheelmen; Milo M. Belding, of New York; H. L. Perkins, of Providence; Thomas J. Keenan, of Pittsburgh, and Burley B. Ayres, of Chicago, all of whom are also of the L. A. W.

Alfred Brown's Little Joke.

Mr Alfred Brown, the London jobber, who was recently in this country, is quoted as saying—on the other side—that "duty removed, the English manufacturers, of fittings especially, could swamp the American market." Mr. Brown evidently intended his remark as a joke,

TO PROSECUTE FRAUDS

Credit Men Establish Fund to Discourage Practice of Profitable Failures.

Final plans for the establishment and operation of a bureau to investigate fraudulent failures and to prosecute those believed to be guilty of such practices have been decided upon by the National Association of Credit Men, and the bureau will be opened in this city on July 1. Rules and regulations to govern the bureau were approved at the Louisville convention last week. William A. Prendergast, secretary of the national association, said yesterday that the trust fund of \$10,000 had been subscribed and everything was in readiness to begin active work on the first of next month. Some idea of the scope of this new department may be gained from the following details of the plan:

Every member subscribing to the fund, when he lodges a claim with this bureau, will be required to execute a written agreement between himself and the national association, he or they binding themselves not to enter into any compromise, agreement or understanding with a debtor after having lodged a claim with the bureau, and this agreement shall be considered as in full force until such time as the bureau shall decide not to proceed with a criminal prosecution of that claim. When a member desires to present a case for the consideration and action of this bureau he shall communicate at once with the secretary, and lay before the latter all information which is pertinent to the case, it being understood between the association and all subscribers to this fund that the purposes of the bureau are for investigation and prosecution, and that all cases will be considered on their legal bases and merits only, and that the activities of the bureau will not be utilized as a means of enforcing collections.

In every case where a prosecution is entered upon each member interested in the failure shall contribute 5 per cent of the amount of his claim toward the costs of the action, and any deficiency that shall appear in making up the total of such costs and expenses shall be defrayed by draft from the fund. In each case where it shall be found that the amounts subscribed by creditors to carry on a prosecution exceed the actual expenses the unexpended balance of that particular case shall be returned to the creditors pro rata, in accordance with the amounts originally subscribed by them.

It shall be the duty of the secretary, with the approval of the board of directors and the national committee on investigation and prosecution, to prepare all such forms and other printed matter as will be necessary for the conduct of the work of this bureau between the members and the association, and furnish the membership with the same.

Whenever it shall be necessary to obtain

one or more legal representatives in any territory, no selection shall be made unless endorsed by the executive committee of the local association, and in States where there are two or more local associations, and the latter may prefer that such course be pursued, such State or States may be separated into two divisions, each division to be regarded as a separate territory.

The association, through its officers and regularly constituted committee on investigation and prosecution, shall assist its attorney in all cases in which it shall be interested, in acquiring the necessary facts and evidence for presentation to the duly constituted prosecuting officials connected with the United States and State courts; but it is understood between the association and each and every subscriber to this fund that the association will not under any circumstances assume any position that would make it liable to a suit at law for damage or other form of redress on the part of any debtor against whom claims are being prosecuted.

The Fourth National Bank in this city has been designated as the depository for the trust fund.

This fund is to be in charge of a board of trustees, to consist of the president, vice-president, treasurer, secretary and chairman of the investigation and prosecution committee; the term of office of such trustees to end whenever they shall cease to occupy any of the offices mentioned; their successors on this board of trustees to be their successors in the particular offices they may have occupied. On January 1 of each year, if it shall be found that the trust fund has been impaired to the extent of \$2,500, notice to that effect shall be sent to all subscribers, and subscriptions solicited in order to reimburse it to the full sum of \$10,000.

The privileges of this bureau are to be open to every member of each subscribing association to the fund, and to every member of the national association not a member of an organized local association who subscribes to the fund as determined by the board of directors. The work of this bureau will be considered part of the national secretary's department, and under his direction and management, subject to such rules as the board of directors and the national committee on investigation and prosecution may from time to time devise.

Each State and Territory shall be considered as a separate and individual territory for the purpose of the operations of this bureau, and cases arising therein shall be placed in charge of such legal representatives as the association may select whenever occasion shall warrant. Arrangements are to be made with law firms to act as counsel, to whom shall be referred all requests for investigation and prosecution. If after receiving an opinion from its counsel on the merits of the case presented the association shall decide to engage in the prosecution of the case, it will be at once referred to the legal representative to be selected by the association in the territory where the failure has occurred.

In this connection an important resolution was passed at the Louisville convention to the effect that "the members of the National Association of Credit Men, appreciating the importance of eliminating as far as possible the danger both to the wholesale and retail trade from dishonest dealers, and believing it to be the duty of all credit men to lend vigorous aid to this movement, bring to the attention of the members of this association and to all other credit men the necessity of creating a sentiment in the business community against dealing in any way, either on a cash or credit basis, with parties who have been connected, either directly or indirectly, with a fraudulent failure, and who have engaged in mercantile pursuits. We believe it to be for the best interests of the houses we represent, as well as our duty to our customers, to protect them as far as possible from such illegitimate and unwholesome competition, and to refuse our merchandise to this class of dealers, that it may be made unprofitable, if not impossible, for people of this description to continue in business, and to prey upon the business community."

Bergier's Motor Composition.

M. Bergier, of Rouen, France, has just discovered a composition for protecting metallic tubes against the action of liquids, an invention which is of great moment to the motor industry. The composition consists of the following substances:

	Kilogrammes.	Pounds.
Dry sand.....	100	220.4
Potash or soda.....	83	182.9
Nitrate of potash.....	2	4.4
Minium	15	33
Pulverized marble.....	5	11
Bichromate	0.10	0.22
Red oxide of copper.....	0.05	0.11
Regulus of antimony.....	0.05	0.11

This is applied to the interior of the tube as follows: The vitreous substance is first blown into cylindrical form, and is then introduced into the tube, which has been brought to a white heat, the blowing being continued until the composition adheres to the metal. The composition claims to have an expansion and contraction equal to that of the metal which it protects.

Will Move to Milltown.

The International Automobile & Vehicle Tire Co. have purchased the old factory of the Meyer Rubber Co. at Milltown, N. J., and will at once start to install machinery there preparatory to removing from their present location, Newton Upper Falls, Mass. It is expected that by August 1 the work of removal will have been completed.

Rosenblatt Burned Out.

H. M. Rosenblatt & Co., of Philadelphia, who at one time were quite a figure in the trade as makers of toolbags, saddles and other leather goods, were completely burned out last Friday. The amount of the loss has not yet been settled, but insurance amounting to \$105,000 has been reported.

HOW MANY PATENTS?

**The Oft Asked Question Finally Answered
Authoritatively—7,573 in all.**

Since the establishment of the United States Patent Office 7,573 patents have been granted for cycles, velocipedes and their component parts. Of these only 16 had been granted before January 1, 1865, and the great majority were issued after 1890.

The first patent was issued to J. B. Bolton on September 29, 1804, for a vehicle driven by a hand-worked toothed gear; the others issued previous to 1865 mostly covered toys. In 1892 the number of applications for patents on improvements in cycles increased at such a rate that a special division for their examination was established in the Patent Office.

Patents of the velocipede class are divided into five groups, as follows: Unicycles, bicycles, dicycles, epicycles and polycycles. All patents in this class must refer to velocipedes propelled by hand or foot, or to parts of such vehicles. Wheels and their component parts, such as hubs, spokes, rims and tires, are not, however, included in this class, but with carriage and wagon wheels.

The following tabular statement shows the number of patents that have been granted on all parts entering into the construction of cycles. The miscellaneous item includes clamps, rests, casings, mud guards, etc.:

Unicycles	46
Epicycles	32
Dicycles	38
Bicycle propulsion.....	1,326
Polycycle propulsion.....	718
Frames	831
Pneumatic tires.....	764
Cushion and solid tires.....	652
Saddles	514
Brakes	451
Handle bars and handles.....	448
Wheels, spokes, rims and hubs.....	358
Pedals and toe clips.....	223
Bearings	133
Miscellaneous	1,039

Total.....7,573

From this tabular statement it appears that 2,044 different devices for cycle propulsion have been patented, 1,416 for rubber tires, 831 for frames, 514 for saddles and 451 for brakes.

Unicycle is a velocipede with only one wheel; dicycle is one where two wheels are placed side by side, and polycycle is one having three or more wheels placed in such a manner as to furnish a stable support. The epicycle is a vehicle very seldom if ever seen outside a museum of freaks. It is a portable annular track propelled by a traction wheel on the inside. The rider is seated inside the wheel in such a position that the centre of gravity is a little below the axis of the annulus.

Dunlop a Motor Bicyclist.

J. B. Dunlop, the inventor of the pneumatic tire, has become a convert to the motor bicycle. His years, sixty-two, show that age is no bar.

Chain Makers Worried.

The English chain makers are in a depressed condition subsequent to a continuous drop in prices, and most of them are casting about for a remedy. In an endeavor to arrive at some conclusion a meeting was held in Birmingham, with the following concerns represented: Alfred Appleby, Brampton Bros., Coventry Chain Co., Garrard Mfg. Co., Hadleys and Morgan Chains and Pedal Co. Letters of approval were received from Perry & Co. and Joseph Appleby, Ltd.

From the discussion it appears that the price of chains has reached a point where it is impossible to make a fair profit. The question of combination was gone into, but no practical scheme being submitted the matter was dropped for the time being.

From a number of printed interviews with those who were in attendance a combination seems to be a remote possibility, because of an already overcapitalization in many cases and a general overproduction.

Combining with this overproduction are large importations of cheap Belgian and German chains, and the general state of the trade can be realized when it is stated that English makers figure that to make a profit it will be necessary to get 18 cents a foot for the cheapest grades they make. What this argues for their manufacturing methods is more than obvious.

The crux of the whole matter lies in the very positive demand for low prices and the English inability to adjust manufacturing conditions to meet the demand. This demand for cheap goods also throws a sidelight on the constant cry of the trade journals of that country that England is par excellence the spot for good goods. The chain makers' wail is a disclaimer.

Have Entered Endurance Run.

The Wisconsin Wheel Works will have two formidable entries in the Metropole Cycling Club's Boston-New York motor bicycle endurance run, July 4-5. G. Vernor Rogers, who has just returned from England, where he made things hum with his Mitchell motor bicycle, will be one of them. The other will be K. H. Beeber, the superintendent of the Mitchell factory at Racine. It is probable also that Henry Allmen, of the Wisconsin's New York staff, will be entered. The Royal Motor Works also have already entered three machines in the contest.

Starley Memorial Revived.

The proposal to erect a memorial of J. K. Starley, who made the safety bicycle practical, has been revived and an appeal issued to cyclists generally for support. In the new movement the Cyclists' Touring Club, the National Cyclists' Union, the Scottish Cyclists' Union, the Irish Cyclists' Association and the Roads Improvement Association are affiliated.

Jenner Assigns.

The Jenner Cycle Co., of Evansville, Ind., is in trouble. It has executed a general deed of assignment to the Ohio Valley Trust Co. for the benefit of its creditors.

HEADS LOCKS WANTED

Motor Bicyclist Insists That They are Needed Badly and why.

"One of the little things that motor bicycle makers should consider at once is a headlock or something akin to it," said F. E. Moskovics, the captain of the recently formed New York Motor Cycle Club, and who has been dealing with motors here and abroad for some seven years.

"It is almost invaluable, and should have come into use long ago. The manufacturers must know that standing a motor bicycle against a curb is almost impossible, while to lean it against a post or a fence or a house and have it remain upright is a trick that often requires more minutes than I care to count. I believe a headlock would be a tremendous benefit; in fact, I am not sure but that a portable stand that can let down when a rider stops and picked up when he starts would not be a mighty good thing. As two or three pounds of weight added to a motor bicycle is of small moment, a substantial stand of the sort would not be handicapped in that regard."

To Find Chain Lengths.

To find the length of a cycle chain this computation is advised by a chain maker: For inch pitch, add together half the total number of teeth to twice the distance from centre of axle to centre of hub spindle. Example: Require the length of chain for 24 teeth on 9 with 19 inch centres, 55 inches—it works out 54½. But the remainder is always added, as in highly geared machines the slope on the chain makes the distance between centres a little less than it would come out if the equation were reversed, viz., given the length of the chain to find the distance between centres. For the other pitches the quantities may be taken in links or inches.

Death of Salem Dealer.

Clement T. Cooper, a well known dealer of Salem, Mass., died at his home on June 10 after a long illness. He was twenty-eight years of age, and leaves a widow and one child. Mr. Cooper was for a long time engaged in the bicycle business, and at the time of his death conducted a store on Essex street. The older cyclists will remember "Clem" Cooper as a rider of local prominence as a road racer.

Columbia Cafe Reopened.

The cafe at the Columbia factory at Hartford, which was closed a year and a half ago, when the company was merged in the American Bicycle Co., was last week reopened. The opening was made the occasion of a complimentary dinner to the 600 employees.

RIDDEN ALL OVER THE WORLD.



NATIONAL CYCLE MFG. CO.,

Bay City, Mich.

MAY 22, 1902.

GENTLEMEN:—I wish to compliment you upon the superior workmanship displayed in special wheel built for me.

The beautiful little machine arrived day before yesterday, and I could hardly wait until it was uncrated. I placed the machine on exhibition in the store and it attracted all manner of attention. After trying it on the road, find that it is the lightest, easiest running machine I ever owned. This is making a broad statement for the reason that I have had many special wheels built for me in the 18 years that I have been riding. Am very proud of the little wheel, and I wish to thank you for your efforts in designing and building so splendid a machine. Nationals always did run easy, and the riders here are now fully convinced that they are the acme of fine workmanship and bicycle building.

Respectfully,

H. K. SMITH.

The purchase of a National is economy in the long run.

The sale of Nationals is a good business proposition.

The BEST machine built
will not be the BEST
unless equipped with
FISK TIRES
THEY ARE THE HIGHEST GRADE.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00
Single Copies [Postage Paid] . . . 10 Cents
Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, JUNE 19, 1902.

To Discourage Failures.

Probably the most ambitious attempt in getting directly at the professional and wide open fraudulent failer is the action recently taken by the National Association of Credit Men, and reported in full in another column.

Too often men of this stamp not only go scot free, but are really upheld in their nefarious methods by the very people who should make every effort to eharicate them from the business system. The entire methods pursued in dealing with them are wrong. The first wrong is committed in not treating them as business criminals to be followed and punished in full in the first instance, but the greater wrong is that which allows them to start up again by once more giving them credit either by those already experienced with them or by other sellers under the plea of competition.

The entire subject is one that cannot be treated too boldly, and that warrants just such drastic treatment as that determined upon by the association in question. The

points covered in the resolution are sound and should be considered by every seller as the first principles in business.

The cycle trade has been particularly guilty in the direction of giving fresh credit to notorious frauds, and in this have been short sighted in subjecting legitimate customers to evils from the illegitimate and unwholesome competition thus engendered.

The objects of the association are so worthy and so sound, from any business standpoint, that they deserve the completest support and active interest of every cycle trader who is worthy the name.

The "Good Old Days" Reborn.

That there is a distinct revival of the club spirit can no longer be doubted. It is a healthy sign, and one nowhere more observable than in the metropolitan district. The cycling clubs hereabouts are all bestirring themselves and evincing a disposition to do something or to at least join with those who are doing something, in striking contrast to their lackadaisical attitudes of last year. This club activity or revival means more and will carry with it more than appears on the surface. It will advertise the bicycle, and an attractive side of cycling, and that is exactly what the bicycle and the cycling interests generally require.

But for the real club spirit—for the hearty enthusiasm and rivalries and discussions that made the early days of the bicycle so notable and made up the "good old days" of which the pioneers are wont to talk with such zest and to treasure fondly—it is necessary to get into a motorcycle club. None who is outside the pale of such an organization can even begin to appreciate the situation. It is a revelation.

The motorcycle clubs are literally living over again the "good old days" of the high bicycle and the early years of the safety. The same spirit, the same interest and intensity, the same enthusiasm, the same genuine good fellowship, the same pride, the same emphatic likes and dislikes and criticisms of particular machines, the same relish of "runs" and occurrences on runs, the same everything that fired the clubs of fifteen and twenty years ago have been reborn in the motorcycle club.

To veterans of the "ordinary" and the safety "wars" who enter into and absorb the recharged atmosphere it is not unlike turning back the hands of time. It is like

a refreshing breeze from an unexpected quarter. He is a jaded wretch who in the thick of it cannot feel its glowful effects.

Happy the motorcycle pioneers! They may have their troubles, but as the years increase and the troubles decrease they will look back and view the troubles as incidents that made their club life agreeable and worth treasuring. For the motor bicycle they are playing the same useful and unappreciated part played by the bicyclists of two decades ago, and who kept alive the cycling spirit until Time evolved its wonder working and brought to the bicycle universal recognition and acclaim.

To Keep Them Upright.

It would be strange indeed if the motor bicycle should bring into use the devices and accessories which the riders of motorless bicycles have rejected with a unanimity that seemed to "kill" the rejected inventions beyond hope of resurrection.

That such a state of affairs, strange though it may be, is easily possible is suggested by the call of a motor bicyclist, voiced in another column, for headlocks and portable stand.

Of all the devices possible to recall, tauau headlocks and portable stand none seemed so far beyond recall. The effort to popularize the rack in particular was a strenuous one. For a time it seemed as if every other inventor in the land was bent on creating a device designed to enable the bicycle to stand alone; the records of the Patent Office must fairly sag with specifications of the sort.

That even the motor bicycle will recall the device into even limited use may well be doubted, but the statement of the motocyclist whom we quote, and who is a rider of ripe experience, regarding the invaluable nature of the headlock, is so positive and emphatic that whoever is interested in motor bicycles should not suffer the subject to pass unnoticed.

Whether the headlock will best serve the purpose we are not fully prepared to say; but our own experience convinces us that it will materially help matters and serve to keep the motor bicycle standing upright until something better is devised.

When Ignorance is not Bliss.

The art of selling goods over a counter has many exponents, and equally numerous are their ways of pursuing it.

It is a little too much, of course, to expect

a ten or twelve dollar a week man to be a walking encyclopædia, filled to the point of bursting with the lore of the articles which it is his special function to dispose of. But it is only reasonable to look to him for information on points indirectly as well as directly connected with his business.

A short time ago we went into a large sporting goods store and made some inquiries concerning a pastime not connected with cycling in the slightest degree.

The salesman seemed to be of at least average intelligence, and was able to impart the information desired, although he did not seem willing or able to go into the matter very deeply. He was finally asked the name of the organ of the sport, the matter having slipped our memory. The inquiry seemed to nonpluss him, and he finally had to admit that he was entirely ignorant of the matter. He did remember that there had been such a publication, but whether it was still in existence he really could not tell.

As a second thought he suggested that some of the newspaper men who looked after this particular sport might be able to tell about the organ referred to.

Notwithstanding this dense ignorance, the salesman, and several others, had their hands full selling goods used by the followers of this particular pastime. It was enjoying great popularity, but the man who made his bread and butter by reason of that fact could not tell whether its official organ, the spokesman of the pastime, was still in existence.

The Adjustable Bar and the Rider.

When we want a thing we usually want it very badly, and will not patiently brook any delay in getting it. But it frequently happens that we seldom use it much after we get it.

Such has been the case with the adjustable handle bar, so called. It became popular almost on its first appearance, some half dozen years ago. One maker after another was obliged to use it, and it finally reached the point where it and not the fixed bar was in an overwhelming majority. In fact, save on racing machines, the latter had almost disappeared.

It would be natural to conclude, having in mind the great eagerness manifested for the new bar, and the insistence on having new machines fitted with it, that a shifting of the position its construction made possible would be constantly taking place.

Everybody knows, of course, that nothing of the kind did occur. A rider might shift

around for a while at first, but it was only a question of a short time when he found the position that suited him and kept the bar there. He did not go on searching for something better, for the simple reason that he had tried every position and knew just what was suited to him.

The best proof of this is to be found in the fact that there was never any real demand for a bar the position of which could be shifted while in the saddle.

If the rider wanted to make frequent changes, for the purpose of giving his hands a rest during a long ride, he would not have been satisfied with the condition of affairs that confronted him. Instead of dismounting and adjusting the bar, as is necessary, he would have desired one that could be adjusted without getting off the machine. If this did not suit him, or he became tired of it, another change, or as many of them as could be desired, was easy to make in such circumstances. But the average rider did not want to do this, consequently the bar in use suited him very well.

What he really wanted was to have a bar that could be changed or shifted if the whim to do this should ever seize him.

Possessed of such a bar, one that was as good a fixed bar as any when it was tightened, and which could be changed at will, he was perfectly satisfied. To-day he demands adjustable bars because they can be adjusted, not because they need to be.

How the Pastime Flourishes.

If one only says a thing long enough and loud enough he will be believed. Not only this, but the matter will finally end in being so.

For several years now it has been the habit to say that cycling was dead. Some of those who made the statement made it with considerable unction, rolling it under their tongues as if it were a sweet morsel and they were well pleased with the taste. Others viewed the matter with regret, still others with indifference. But there was in many quarters a general concurrence in the statement that the demise of the pastime had actually come.

If proof were needed that this was a grossly exaggerated view of the matter it has been given this year. The sight of hundreds and thousands of riders swarming on the streets, parkways and roads, and all getting pure, unaffected enjoyment out of the pastime, is a most effectual refutation of the charge.

Consequently it is no longer being made.

In fact, there is a pretty general admission that never since the days of the boom has there been so much wheeling, and it of a rational, enjoyment-bringing character. The corner has been turned, and its turning disconcerts a few people, astonishes others and causes much satisfaction to a third and very large class.

And this leads to the very interesting query, What has caused the change?

Unquestionably it is the awakening of the wheelmen themselves. As long as they half admitted the truth of the assertion that cycling was dead, did nothing to demonstrate its falsity or to stimulate interest and activity, it was, to all intents and purposes, dying.

But the instant they awoke from their lethargy, talked hopefully and cheerfully of the condition of the pastime, instead of despondently, a change came over the situation.

It was found that things were not half as bad as they were painted, and could be wonderfully improved by a very little exertion. The cycling spirit was not stricken with a fatal or even a serious disease. The desire for the pastime was still there, and it only needed to be stimulated, the pastime itself taken up again, to clothe it in all its old attractiveness.

All over the land this awakening is going on. Old riders are riding again, new ones coming into the game; and the great mass who held on are pluming themselves on their longheadedness and cycling with greater zest and regularity than ever.

It takes the average city father to discover that something is taking place from which he is not getting a rake-off. The powers that be in the city of St. Louis have acquired fame in that special direction, and were of late thoroughly exposed. A little thing like that, however, does not worry them only until they can find another crowd to mulct. The latest to catch their attention is the motor bicycle, and they are now out with a license fee representing about 7 per cent of the cost of the machine. If this isn't downright robbery of the barefaced kind, then there never was an example.

Cables from abroad state that the International Cyclists' Association has fixed on Chicago as the scene of its so-called world's championships in 1904. Some one is either perpetrating a joke on the I. C. A. or the I. C. A. is perpetrating a joke on Chicago.

Orients Win Everywhere.



MERIT WILL TELL.



First, Second ^{and} Third Place in the Great Irvington-Milburn Road Race.

Wyckoff, on an Orient Motor Bicycle, wins the 10-mile motor race.

The Orient Motor Bicycle also wins first place in the great motor races at Bexhill, London, England.

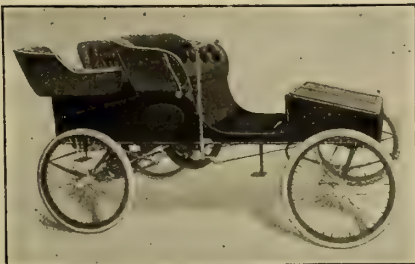
At Staten Island Speed Contest the Orient 3-H. P. Motor Bicycle makes a straightaway mile in 1:10 2-5.

SUCH RECORDS AS THESE NEED NO COMMENT.

WALTHAM MFG. COMPANY, WALTHAM, MASS.

Reasons why the "BUFFALO MOTOR CAR" is so Popular.

"BUFFALO TONNEAU"

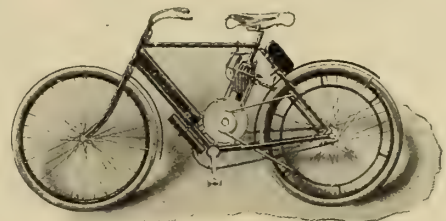


Model 15. Price, \$900.
" 7. " 800.

LONG WHEEL BASE.
EASY RIDING.
6 Brake H. P. Motor.
SURPLUS POWER.
LARGE LUGGAGE BOX.
Convenient for Touring.
LARGE TANKS.
Insuring Long Distance.
AN EXCELLENT HILL CLIMBER.

"AUTO-BI"

THE STANDARD MOTOR CYCLE.



Model 4. Price, \$175.
" 3. " 150.

INCLUDES ALL FEATURES USUALLY FOUND ON \$2000 CARS.

TONNEAU EASILY DETACHED.

We use celebrated E. R. THOMAS WORLD'S RECORD MOTORS; they excel.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, 1200 Niagara Street, **BUFFALO, N. Y.**
LONG DISTANCE 'PHONE, Bryant 1370.

ADDRESS ALL CORRESPONDENCE TO BUFFALO.

ADDRESSED TO KICKERS

Some Pointed and Pertinent Remarks That Should Carry Weight.

What is the use of kicking, brother?

When things go wrong with you and you feel like a fiddle with the bridge down, don't it occur to you that the chances are that it is you who are bilious and not that the universe has slipped a cog in the night? Don't you know that the man to whom you take your tale of woe sees in it a confession of weakness on your part, and that in nine cases out of ten you are condemned out of your own mouth? More times than not, the whole trouble arises from your having too high an opinion of your deserts and too low a one of your neighbor's.

If success has marked you for its own, if you are going to rise superior to your hindrances, you are going to ignore what you can of unpleasantness, bear what you must and work away with an unflagging determination to achieve your end. The only thing that really counts for anything is results, says The Man in the Corner. Talk will never cover deficiencies, nor will any amount of explanation or excuse prevail in the face of continual failure.

Do something! Try something for yourself! Make two blades of grass grow in the place of a weed; send in that order the house hardly hoped you would get; open a new door for trade; show up a satisfactory balance sheet at the end of the year—and let the other fellow kick. It is better to lead and have the field against you than to be one of the pack that hangs on the heels of the leader.

If you ever accomplish anything of value you will make mistakes while doing it. Let the other fellow waste his breath over these—and do something more while he talks. Errors are often like the skirmish line that draws the enemy's attention and covers the real plan of attack.

The only man who never made a mistake is the one who never made a success. The horse in a treadmill never gets in a smash-up, but neither does he get anywhere. Every path to pre-eminence is blazed with errors as the wagon road across the plains is lined with skeletons of those who failed by the way, and our road is clearer for the passage of the pioneers who learned the best path through experience on the worst ones. A stupid error, a careless error or a repeated error should receive no end of self-condemnation and a hearty "amen!" to the assaults of others; but, oh, brother! expend your bad language upon yourself and let the other fellow alone. Don't kick, for it never pays.

We have all sung the old song in which the boy is urged to "learn to say no." That lesson is too well learned. The crying need of the day is a greater ability to say yes, and to say it heartily. More than half the failures we know about are simply unsupported successes that "a long pull, a strong pull and

a pull all together" would have lifted onto a firm basis. Negative measures never accomplish anything in the way of progress any more than a rock in a stream aids navigation.

Get outside your own scheming, brother, and when a good thing is presented to you approve of it, unless you have something much better to offer, which the true kicker never has. If it has weak points, give of your strength to strengthen them. You will lose nothing by it. The most successful man you know is the one who complains the least and uses a dozen affirmative measures to one of the negation.

Don't kick! Every kick has a recoil.

Something New in Pedals.

English riders have all along been rather more faithful to the rubber pedal than have those of this country. Just why this should have been is one of those things which no man can find out to the satisfaction of both parties. Whatever the cause, the fact re-



mains; and for that reason a new rubber pedal invented by William Starley, Coventry, England, will probably meet with a good reception.

Taken as a whole, the construction is to inclose the entire pedal in a thick band of rubber that extends across from end plate to end plate, and flush with the same, except at the centre of each, where a lip extends upwardly to prevent the feet from sliding sidewise. The rubber is fluted in the direction running around the pedal, five flutes being provided with ridges between. The design seems to be a good one, and should give all-round comfort from its use.

How Men Forget.

Can you remember who ran on the ticket with Cleveland when Harrison was elected? There are few who can, but there are many who believe an occasional advertisement is all that is necessary to keep the remembrance of them fresh and green in the public mind.—Ex.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

THE CELEBRATION PARADE

All Cycling New York is now Awake and Interested—Col. Pope Grand Marshal.

It may now be said that the cycling clubs of the metropolitan district are again awake. It required some little time to bring about the awakening, but the interest displayed in the quadri-centennial parade, which is set to occur in this city on July 12 next, is of a character that tells its own story.

In point of attendance and enthusiasm the meetings have suggested the spirit that obtained in the heyday of club life, and indicate a parade that will finally put to rout the overnumerous cycling-is-dead type of calamity howler. The clubs of both New-York and Brooklyn have joined in the affair, and on Tuesday selected Alderman Joseph Oatman, who is the head and front of the affair, as chief marshal. Colonel Albert A. Pope, who in 1877 built the first American bicycle, the 25th anniversary of which the parade is designed to celebrate, was chosen grand marshal, with power to appoint his own aids.

The prizes common to all parades will be, of course, provided. There will be an award for the best appearing club and five awards for the numerically strongest clubs in uniform. These prizes are apportioned so that clubs of from 200 or more members to 50 or less will share in the distribution. A special prize for the best appearing club from outside Greater New York is also on the list. The most grotesque costumes and the best decorated mounts, and also "the best appearing and best controlled motorcycle" will likewise secure rewards.

Tourist Cars on the Nickel Plate Road.

Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fridays. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest ticket agent, or write A. W. Ecclestone, D. D. Agt., 385 Broadway, New York City. ***

VOLATILE VILLIFICATION

Troubles That Come From Stopping En-Route to Tank up—Oil on Gasolene.

With the rapidly increasing use of motor bicycles there has come a practice on the part of motorless cyclists to "hang on" when out on the road. The temptation is natural, but sooner or later it is going to lead to trouble, and the motocyclist will be obliged to practise a few tricks to discourage the other fellows.

The entire matter is well summed up from all sides in the following, from one who has had experiences in both directions:

"I really must urge upon fellow cyclists the danger which attaches to the practice of hanging on to a motorcycle. It is a thing that ought never to be done except on unfrequented roads, or with the consent of or by arrangement with the driver of the motorcycle. There are so many circumstances likely to happen which would result in the self-propelled machine pulling up in a very short space that the sheltered position behind it is one fraught with extreme risk.

"An accidental touch to either mixture, gas or speed lever, a snapping of a wire, a turning of the switch through a jolt from the road, would invariably result in a sudden stop on the part of the motor, while the gyrations of a restive horse or frightened pedestrian would generally cause a slow-up. And, when it is considered that a motorcycle could on a sudden emergency be brought from full speed to a dead stop in the matter of three or four yards, it will be seen that a cyclist hanging on would have no earthly chance.

"The motocyclist may be relied upon to give warning whenever it is possible, but he may be quite unaware of the presence of the cyclist. I have frequently hung on (or tried to do so!) to a motorcycle, and have always imagined that I have been fully capable of taking care of myself, but some experience with the motor bicycle itself has shown me the danger of the practice. A cyclist will, perhaps, catch you up and take your back wheel, and the purring of the motor will effectually drown any indication of his presence.

"One gets into the habit of giving an occasional glance behind to see what may be there, because it is generally on busy roads, when the motor is going slowly, that the cyclist 'nips' in, and, as it happens, it is in traffic that the most danger attaches to the practice, because of the irregularity of the pace.

"A bit of pacing behind a motor has a wonderful attraction for a very large class of cyclists, and I have become somewhat expert in 'playing' the man who quickens his pace, on hearing one's approach, with the idea of dropping in behind the motor as it goes by.

"You can always tell the intention of the man as you commence to overhaul him. Di-

rectly he scents a bit of pace his head goes down and he starts working up. Then, if you are not anxious for his presence at your tail, you commence to 'play' him. You slow your pace down to his and keep just at his rear. He, maybe, thinks you are a long time in catching him up, and in consequence rather prides himself on the ease with which he will hold you when once he gets behind. But he dare not slacken his pace for fear of failing to 'nip in.'

"So you keep him on tenterhooks for a few minutes, until he shows signs of fatigue; then the gas throttle is opened or the speed lever is advanced, and perhaps a few quick thrusts given to the pedals, and you instantly jump into another five miles an hour; and your victim cannot respond, but, as you fly by, he gives you a look of mingled admira-



HANSEN ON HIS MITCHELL MOTOR BICYCLE.

tion and disgust. And you turn around a few moments afterward and see him sitting up, mopping his face.

"You can always dish the cyclist in that way, even if he knows all the moves as well as a couple of opponents at chess know each other's methods. His only way to play the game is to go at his own pace or try to increase it without showing it until you get alongside, and then to try to jump into the rear position. But the motocyclist has a counter move to that, because, if he suspects his man, he will run wide on passing him, and slightly increase his pace.

"Being a cyclist myself, I have been in a position to appreciate the need for care on my part, when on a motorcycle, in order not to bring about accidents to those who had taken my rear wheel, and I can honestly say that their presence there has always been a source of anxiety to me. So when I counsel extreme care on the part of those taking pace from a motocyclist it will, I hope, be recognized that I am not exaggerating the dangers of the proceeding."

DOG DOWNED HANSEN

Cut Short his Ambitious Effort to set up a Motor Bicycle Record.

After making a brave start and getting well advanced toward the goal, A. A. Hansen, the Minneapolis man who set out to ride 1,000 miles on the road on a Mitchell motor bicycle, ran afoul of a dog and was rendered hors du combat.

Hansen figured on completing the distance in about fifty hours. He made the start at 4 o'clock Sunday morning last, completed the first 100 miles in 4h. 27m., the second 100 in 4h. 26m. and the third 100 in 6h. 7m. On the last he was obliged to greatly reduce

speed because of the crowd on the boulevard.

With a moonlight night in prospect he was still confident of completing his task, but the cur crossed his path and threw him heavily into a ditch. He was knocked unconscious and considerably bruised, but is now up and about again.

The Repair of Cycle Paths.

Whose duty it is to keep up the repair of a cycle path when same has been built by path commissioners through a park recently came up in Rochester. The park commissioners take the point that it is not the duty of the park board to make the repairs, for the sidepath commissioners get revenue for the use of this part of the path the same as they do for the rest of the path. The park board has no funds for such a purpose, and if they did have it is clearly the duty of the sidepath commissioners to do the work.

This was in reply to the claim that the path was in park property and that the sidepath commissioners have no right to repair it because of its specific location.

CINCH

COASTS FREELY ON BEARINGS.

GROUND AFTER HARDENING.

Brakes Metal to Metal.

Drives Without Friction.

RIGGS-SPENCER CO., Manufacturers, Rochester, N. Y.

DEALERS.

WE CAN MAKE YOU IMMEDIATE SHIPMENTS IN

BICYCLES that retail at **\$15 to \$20**

If you are bothered in getting shipments from factories, write us for catalogues and samples.

PRICES RIGHT.

E. P. BLAKE CO., 57-59 Sudbury St., Boston, Mass.

From a Dealer who has the Reputation of knowing a good thing when he sees it.

THE ROYAL MOTOR WORKS,
New York, N. Y.

FALL RIVER, MASS., June 4th, 1902.

DEAR SIR:—I have delayed reporting the result of my experience with the first Royal Motor Bicycle I received and sold in order to give it a good trial.

As you already know the machine was sold immediately and I had little opportunity to use it myself, but the owner invited me to give it a trial and I rode it about fifty miles. As a result of what little I rode it, and after one month's use by the owner continually, I have yet to know of a single time when anyone has had the least trouble to make it go, with one single exception, when one of the electric connections was broken. He has had some trifling troubles with his brake, but as far as I know there has never been the slightest trouble to find with the motor itself or its working, and I think that you have succeeded in constructing a very reliable motor.

Yours truly,

W. D. WILMOT.

Is there a Royal Agent in your town?

ROYAL MOTOR WORKS

29-33 West 42d Street,

NEW YORK.

Jobbers, Be Wise!

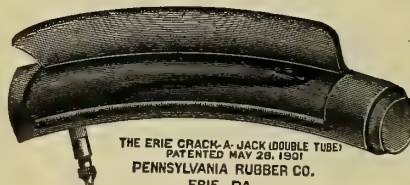


Handle these Goods and

MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK DOUBLE TUBE
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,
ERIE, PA.**

BRANCHES:

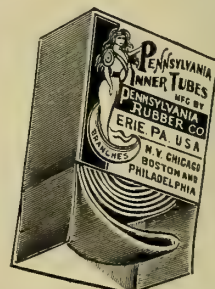
NEW YORK

BUFFALO

CHICAGO

PHILADELPHIA

BOSTON



Schrader Universal Valve.

(Trade Mark, registered April 30, 1895.)

NOTICE.

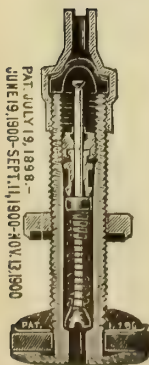
Manufacturers of Bicycles, Jobbers and Dealers:

In order to facilitate the obtaining of

**PARTS of the
Schrader Universal Valve,**

I have concluded to sell parts only to the general trade.

Parts 99-1, 99-2, 99-3, 99-4, may be had from all the makers, or from A. SCHRADER'S SON. Price List and description of parts sent on application.



**SIMPLE AND
ABSOLUTELY AIR-TIGHT**

Manufactured by

A. SCHRADER'S SON.

ESTABLISHED 1844.

**30 and 32 Rose St.,
New York, U. S. A.**

NONPLUSSES NOVICES

Some of the Things About Motocycles That Vex Beginners—Elementary Explanations.

"What I want to learn before I buy my motor bicycle," remarked, to a group of friends, the old time cyclist who is in the transition stage, "is something about the electrical end of the thing—that is, the coil and what is meant by positive and negative poles on the battery. If there is any one in this group who can explain them to me in understandable terms I wish he would. I have been reading a book on electricity, and can't make much out of it."

Realizing that a little knowledge is a dangerous thing, and that the specific knowledge desired in this case is the hardest kind to give, the man looked to for an explanation approached the subject somewhat gingerly.

"To begin with, there is the exact meaning of the terms positive and negative. For your uses there is no need to go into elaborate details of the action in the cell. An electric circuit as used for ignition purposes has a definite direction of flow, and the point from which it starts is the positive pole. The course of the current is then through wires to the coil and back through wires to the battery; where it re-enters the battery is the negative pole.

"Always keep in mind a stream of water moving through pipes, the wires. The wire itself is the same as the hole in the pipe, and the covering, insulation, of the wires is the wall of the pipe. If you break this cover the same thing happens that would if you made a hole in a water pipe—there is a leak. Remember this when you sometimes lose a spark. You may have a leak in your insulation. The leak is called a short circuit, but don't let this term throw you off the plain fact that it is just a plain leak and nothing more.

"Now, as to the spark coil. It should, first of all, be appreciated that there are theories concerning coil construction that have so far defied any explanation in a so-called popular way. To grasp the subject in its entirety one must possess a rather complete knowledge of electro-magnetics.

"The thing that bothers those who have just a knowledge of the general construction of coils is how it is that, although the secondary winding has no direct connection whatever with the primary winding, and the latter alone carries the current from the battery, the current passes from the primary to the secondary.

"As a matter of fact, and this will probably seem contradictory from what is to come, and is really the hard thing to describe without technicalities, no current actually gets from the primary to the secondary. When the current from the battery circles around the soft iron bundle of wires making up the core, by means of the primary winding around this core, the latter is magnetized, and this magnetism flows out

of one end of the core and sweeps around and through the secondary winding, and then enters the other end of the core.

"It is the sudden starting and stopping of the magnetism, which means the making and breaking of the current at the controller on the side of the engine, that produces the current in the secondary coil.

"Of course, you wonder why it is necessary to have this secondary winding. It is, because the pressure—voltage—of the battery current is not sufficient to force the current across the gap at the points of the spark plug. To get this force it is necessary to increase the volts by several thousand, and this is effected by making the number of turns of wire of the secondary about one hundred times greater than those of the primary. The best graphic illustration I have read of this appeared recently in a foreign journal, and reads as follows:

"What we do to the primary current is that we gear it up, as it were. It is similar



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

in effect to the driving off a very large pulley on to a small one by means of a belt or chain, so as to obtain a high speed, which is equivalent to the increased pressure or high voltage required at the sparking plug points, and we may regard the iron wire core of the coil as fulfilling the same function as the belt or chain; that is, it forms the transmitting medium between the two coils just as the belt does between the two pulleys."

Refinement in Spark Plugs.

A refinement in spark plugs, small in size but immense in importance, which seems to have escaped attention from designers is one that will permit of regulating, mechanically, the gap between the points.

As at present designed these points can only be spaced by bending either, or, in some plugs, both points, with a pair of pliers or by hand. In time this will break off the points and put the plug beyond use until repaired by the maker. These troubles could be avoided by passing a cross screw through the head of the centre pole, this screw being turned in either direction to give a greater or less gap.

TREATED MEDICALLY

Brooklyn Dealer Cleverly Doctors Words to fit his Case—His Only Complaint.

G. A. Boettner, a Brooklyn repairman, who styles himself "C. D." in print and out of it—the "C. D." standing for "Cycle Doctor"—carries out the old idea in refreshingly clever fashion in an unusually tasteful little folder. He states his case in this wise:

"If your cycle is sick, in the tantrums, or its internal organs out of gear, call on Dr. Boettner, expert cycleologist, who will diagnose the case and cure your mount.

"A graduated physician in constant attendance to aid all sick and distressed. License to practise is shown by L. A. W. diploma; is also an L. A. W. Consul and authorized to receive your application or renewal.

"The Medical Department is fitted with everything for instant reinvigoration of your mount. The Pharmacy contains only pure drugs.

"The Surgery is supplied with all modern appliances for speedy operations, such as building, repairing and amputating.

"Pure ozone hypodermically injected to inflate your mount's epidermis.

"All epidermal and intestinal wounds cured by our scientific process of engrafting. Cycle accessories for yourself and steed always on hand.

"Our antiputrefactive (microbicide) for cycle-bearing bacteria will destroy all microbe germs.

"For your inspection a schedule of charges for treatment, medical or surgical, hangs in the office.

"Visits made to residence of the sick, and patients removed to our hospital.

"No connection with other so-called allopathic, homeopathic, cycological or Christian Science doctors.

"Our treatment is eclectic, founded on common sense, giving life, not death, to your mount.

"We are the oldest established cycle firm in the Borough of Brooklyn; others have come and gone, and we are still in it.

"Why?

"First—Because we are satisfied with a fair margin of profit.

"Second—A prompt delivery of work as promised.

"Third—No cure, no pay; which is but just; you do not pay for what you do not receive.

"No sideline, such as chewing gum, shoe-strings, phonographs, but cycle doctoring only.

"Office hours, from 8 a. m. to 8 p. m. Closed Sundays and holidays.

"N. B.—Examinations and prescriptions in our clinic free."

That Boettner's policy is a paying one is evidenced by the fact that he says he has more business than he can attend to.

RACING

Without warrant and apparently for no other reason than to create talk, the questionable practice of starting the scratch men behind scratch was inaugurated at Vailsburg on Sunday last. Kramer and Hurley both were made victims of the precedent which may yet return to vex the authorities. In the half mile professional handicap Kramer was set back ten yards, and in spite of this handicap managed to land second place, making new records for both the total distance of 890 yards, standing start, and the regular distance of 880 yards, flying start. The former he set at 0:55 and the latter at 0:54 4-5. The former half mile record was 0:55 2-5, made by P. O'Connor at Minneapolis on June 10, 1895. In the ten mile open event Kramer was not penalized, as all the riders started from scratch, and he finished first, making the distance in 22:10, more than twenty-five seconds better than the former record of 22:35 2-5, made by Ivor Lawson at New Haven on August 10, 1901. Bardgett, with 40 yards, finished first in the half mile handicap; Kramer second, Floyd Krebs (40 yards) third, Collett (10 yards) fourth, Franz Krebs (55 yards) fifth. Time, 55 2-5 seconds.

In the mile open professional Kramer was first, Collett second, Jacobson third, Bald fourth, Sullivan fifth. Time, 22:10. The five mile prize was won by Bald. Hurley was also placed behind scratch, twenty yards being his penalty in the mile handicap. The handicap, however, was too much for Hurley to overcome, and he failed to qualify. The race was won by G. Zanes (100 yards); M. Coffey (140 yards) second, C. Stobbie (120 yards) third. Time, 1:59. In the half mile open Hurley was more successful. Twelve riders qualified in six heats, including Billington, Glasson, Schlee, H. Welsing and G. Welsing. Hurley went to the front when the start was made, and was never headed. Billington and Ernst had a hard fight for the place, the former getting the verdict. G. Welsing was fourth. There were 4,000 persons present.

In winning the Brassard race at Boston on June 12 Elkes established world's records from the fifth to the forty-first mile, inclusive, and incidentally created a new American record by covering 41 miles 250 yards inside the hour time. The other contestants in the race were Walthour, who was defeated by almost three miles; Butler, who was defeated by 4 2-3 miles, and McConnell, who was 4 2-3 miles to the bad. There was a great deal of unnecessary jockeying for positions just before the start, and when the men did get the gun Elkes and Butler were abreast, with Walthour and McConnell right behind them. In the first lap of the fifth mile Elkes lapped McConnell, and Walthour did likewise in the next lap. At eight miles Elkes was half a lap to the good, and then he passed Butler and McConnell. He was riding very fast, and was gaining on Wal-

thour every lap. At the finish of the twelfth mile, as Walthour was changing his pace, Elkes gained the remaining thirty yards and got his full lap on Walthour. He was at this time twenty seconds ahead of record time. Elkes caught Walthour for the second time in the sixteenth mile and went by him handily. At this time Elkes was four laps to the good over Butler and five over McConnell. Only Walthour figured in the running, he being 8½ laps behind at the finish. Elkes's times follow: For five miles, 7:16 1-3; for ten miles, 14:24; for fifteen miles, 21:24 3-5, beating Stinson's record by 58 seconds; for twenty miles, 28:40½, or 1:12 ahead; for twenty-five miles, 35:56 4-5, or 1:19 ahead; for thirty miles, 43:16 4-5, or 2:02 1-5 ahead; for thirty-five miles, 50:38 3-5, or 2:12 ahead. Elkes's fastest mile, the eleventh, was made in 1:23 1-5.

Elkes defeated Stinson and McLean at Revere Beach, Boston, June 17, and broke four records in a twenty-five mile motor paced race. McLean had trouble with his motor soon after the race began and lost several laps. Later on his wheel went wrong and he fell still further behind, and did not finish out the distance after Elkes had won. Elkes's time for the first two miles was 2:49, the best former time being 2:53 2-5. He covered three miles in 4:15 1-5, which is 6 seconds better than the former record. The four miles were ridden in 5:41 2-5, 4 seconds less than the record. The first five miles were covered in 7:07 1-5, 1 1-5 seconds better than ever before. Elkes's time for the 25 miles was 38:12 2-5. Stinson was a mile and a half in the rear and McLean three miles. The five mile amateur motor paced race was won by B. H. Temple, of Boston, in the very good time of 9:36 2-5.

At Pittsburg on June 14 two world's records were broken by Champion in his race with Freeman. The event was to have been ten mile heats, but two heats were all that was necessary. The first heat was made in 14:14, the last mile being ridden in 1:19, which is the fastest mile ever made in competition. The former best time was 1:22 1-5, also held by Champion. He won the heat by about fifteen yards. In the second heat, after the first mile and a half was run, Freeman's motor gave out and he was compelled to quit and leave a clear track for Champion, who then went out for a record and succeeded in making a new world's mark for ten miles by lowering it two seconds, his time being 13:41 2-5, breaking his own record of 14:03, made at Washington. The race was witnessed by 2,500 people.

In the ten mile motor paced heat race between Fenn and King, at Atlantic City, June 17, Fenn narrowly escaped serious injury. It was during the last lap of the first of the ten mile heats, and Fenn was leading, when the chain of Fenn's motor broke,

smashing the rear wheel to pieces and throwing his pacers. Fenn heard the crash just in time to run up on the bank, and avoided a collision. King finished and was awarded the heat, time 16:25 1-5. In the sixth mile of the second heat another accident took Fenn's motor out of the race, causing him to lose fifteen laps. King's time for the ten miles was 16:40 1-5.

Champion defeated Freeman in two straight heats of a ten mile motor paced race at Washington on June 12. The first heat was won by 3 laps and the second by 3½ laps. Champion's time for ten miles in the first heat was 14:27, a new world's record, beating that of 14:47 made at Baltimore on June 10. His time for the second heat was 14:03, or over twenty seconds better than in the first heat. Champion broke all records in this heat for paced competition from one mile to ten miles inclusive. In the second heat Champion rode the tenth mile in 1:22 1-5, the fastest mile ever ridden in competition.

Kramer won the half mile open at New Haven, June 17, in a rattling finish, with Collett. Time, 0:58 2-5. Bald failed to qualify for final heat. The two mile professional handicap was won by R. M. Alexnder (160 yards), Fisher (75 yards) second, Rutz (110 yards) third, Sullivan (140 yards) fourth; time, 4:11 2-5. E. Stander, of Rochester, won the half mile amateur in 0:59 1-5. The one mile consolation race for professionals was won by Blodgett in 2:18, Hadfield second, Krebs third.

Although defeated, Champion was given the race with Walthour at Charles River Park, Boston, June 17, on a foul based on the action of Walthour's pacemakers in crowding Champion so that he lost his pace. The race, for twenty-five miles, motor paced, was started under a protest against Walthour's motors. Walthour caught Champion in the second mile, and passed him in the twelfth mile by crowding. After that Walthour gained rapidly, and finished twelve laps to the good in 36:04 2-5.

The N. C. A. has finally instituted its fund for injured professional riders and trainers, which is designed to compare with the Actors' Fund. The N. C. A. fund will be given its start at the Metropole meet at Manhattan Beach on Saturday, when 10 per cent of certain receipts will be set aside for the purpose. For this meet nearly 50,000 invitations have been issued.

McLean defeated Stinson by one mile and a quarter in a twenty-five mile motor paced race at Boston on June 14; time, 38:30 2-3. At the finish of the race Stinson's manager protested the race on the ground that the motor tandem which paced McLean transgressed the limits allowed by the N. C. A.

Have You Received Your Invitation

TO THE METROPOLE CYCLING CLUB'S RACE MEET?

It will be a "Whopper."

MANHATTAN BEACH
TRACK,
Saturday, June 21, 3 p. m.



ADMISSION BY
INVITATION ONLY.

Amateur Events.

ORIENT TRY-OUT FOR NOVICES, one-quarter mile. First prize, Orient Bicycle.

COLUMBIA HANDICAP, two miles. First prize, Columbia Motor Bicycle, \$175, and Metropole Blue Ribbon.

YALE FIVE MILES. First prize, Yale racer with Yale roadster to winner of greatest number of laps.

Professional Events.

SEASIDE DASH, one-third mile. Purse \$100.

METROPOLE SWEEPSTAKES, five-mile handicap. Purse \$200, with entry fees added. Metropole Blue Ribbon to winner.

ATLANTIC INVITATION PACED RACE, 20 miles.

For Invitations, address

S. W. MERRIHEW, Chairman,

124 Tribune Building, NEW YORK CITY.

The machine is the new motor tandem that was built for Walthour.

Verheyen, the German who was recently killed in an automobile accident while en route to Italy, is the same who in 189— was the cause of a small sized riot in this country. It was during the winter races in Madison Square Garden, this city, in which he competed. Several riders had been injured by looking backyard, and after being warned once Verheyen repeated the offence and was at once disqualified by the referee. The other riders espoused his caused (and their own) and refused to ride unless the referee was removed. Pandemonium reigned for a while, and although the Garden management offered to clear the building and close the doors rather than submit to the revolt, Referee Prial gave way rather than disappoint the crowded house.

McFarland was thrown from his bicycle while training at Providence on June 12, and at the last minute Hall was secured to take his place against Stinson on the 13th for a twenty mile race. Stinson rode in fine form, but defeated Hall by only two laps. He made the last mile in 1:25 3-5. His time for the twenty miles was 31:40 3-5.

Robert Walthour has been fined \$25 by the N. C. A. for "conduct detrimental to the interests of the sport" and been warned not to again repeat the offence. The fine grew out of Walthour's refusal to ride at Boston until his pacing tandem, a new one, arrived. He thereby delayed the race until nearly midnight.

The six days' racing in the Western Circuit of the N. C. A. ended June 9 at Springfield, Ill. James Bowler won, covering 95 miles, riding thirty minutes each evening. Holloway was second, covering 94 miles 4 laps; Kreamer third, with 93 miles, and Miller fourth, with 92 miles 6 laps.

James McCollum, of Rahway, one of New-Jersey's live dealers, is this year standing sponsor for the Elizabeth-Rahway twenty-five mile road race on July 4. Five Yale bicycles and two Pierces are included in the prize list.

Receiver for Newby Oval.

Arthur Newby, one of the builders, has applied for a receiver for the Newby Oval, Indianapolis, Ind. Erected in 1898, at a cost it was then regarded as the best equipped track in the country.

Recent Incorporation.

East Orange, N. J.—Velodrome Cycle Track Co., with \$10,000 capital. Incorporators—Henry J. Kingsbury, Edward T. Magoffin and Walter H. Bond.

WITH THE

PERSONS SADDLES



it is
not
a case
of
Nothing Better
but
of
None So Good.

And their goodness is of such a superlative character that no other saddle is fit to be mentioned in the same breath with them.

PERSONS MFG. COMPANY,

C. A. PERSONS, Pres't,

WORCESTER, MASS.

VARIABLE GEARING

Its Advantages and Some of the Obstacles to its Adoption.

At the last meeting of the Cycle Engineers' Institute, of England, a paper was read on "Variable Gearing" by Henry Sturmev. The variable gear, be it understood, is designed to afford riders a change in gears for various road conditions, and is occupying the English manufacturer to some little extent.

In commencing his paper Mr. Sturmev said:

"The first question that arises in the mind, more particularly in the mind of the engineer, with regard to variable gearing for cycles is, What do you want it for? For the inevitable result of bringing engineering knowledge, untimpered by practical cycling experience, to bear upon the matter is to arrive at the conclusion that there is nothing in it, the argument being that to transport the rider and his machine over a given road, to surmount all the gradients and bring him to his destination in a given time, requires the expenditure of a fixed amount of energy depending on the work to be done, and that, whether this energy is expended in a multitude of small applications, in a lesser number of greater ones, or in a mixture of the two, the net result in energy expended must be the same, and consequently there can be no gain to the rider.

"The complication, weight and cost of variable gearing are but worse than useless, and there is no tangible reason why the sweet simplicity of the sprocket and chain should be departed from. And if we had a steam engine to deal with as the source of power instead of the human body, such a conclusion would probably be correct.

"But lengthy experience of the cycle trade serves to bring to mind many notable instances in which engineers of experience and standing in their own particular lines, but without experience of the cycle and its use, have tried their hands at cycle design and manufacture, with results which, to say the least of them, have been lamentable failures.

"And in no matter more than this question of gearing is the man with ut practical cycle experience likely to go wrong. It is, in short, quite as much a physical as a mechanical question—indeed, very much more so.

"The difference between a rider and a steam engine laid on to a job is that the former would get tired, but the latter would go on working all day, so long as a sufficient head of steam were kept up. Moreover, the brain of the rider worries when it feels fatigue, and this makes matters worse."

The author went on to point out that "normal" gearing was nothing more nor less than a compromise arrived at by trial and error. He referred to the custom of cyclists who adopted as a normal gearing that particular compromise which suited their own requirements on the matter of pace, and in the

circumstances as to gradients, etc. But for varying conditions no one single gear can be entirely suitable to the rider, whereas a variable gear would enable the rider to suit his gearing to the needs of the moment, and that was all there was in it.

Mr. Sturmev remarked that it may not sound much to the man who doesn't know, but it is enough to make all the difference between pleasure and toil in riding, and between a satisfied enjoyment at the end of the ride and a played-out tiredness; so much so, indeed, that personally he had long since decided that a variable gear of some kind will form a component part of every bicycle he buys for his own riding in the future.

Indeed, when its advantages have become generally known, the author is of the opinion that few riders who ride for the sake of riding will fail to adopt variable gear, and that it will ere long come to be recognized quite as much to be a necessary part of a high grade bicycle as the free wheel is to-day.

Having thus touched upon the value of a variable gear, the author briefly referred to the manner of using it and then proceeded to consider its construction. In the early eighties there were some forms of variable gearing, but to-day, while a few other varieties exist abroad, seven marketable gears are known in England, which may broadly be divided into bracket gears and hub gears, according to which portion of the machine's anatomy they are applied to. Of these, four are two speed gears; two provide three different ratios, and one, the Paradox, is arranged for no less than seven! All the bracket gears may be used in combination with the free wheel, as the latter is, of course, applied at the hub; and of the hub gears one is usable only as a fixed wheel, one has the free wheel embodied in its construction on the higher speed only, another is essentially a free wheel gear, being combined with a well known free wheel device, and the other may be supplied as either by the interchange of chain rings in the usual manner.

In connection with these it may be interesting to record that the first serious attempt to introduce a variable gearing was made by Messrs. Shaw and Sydenham, in 1880, when, under the title of "The Crypto Dynamic Two-Speed Gear," they introduced an epicyclic train fitted to a tricycle. As this principle of construction is used in all the internal gears of the hub variety, and as, moreover, its somewhat complex characteristics are even now but slightly understood, a few words upon its action and peculiarities may not be amiss.

Crypto dynamic, or epicyclic, gear consists of three elements, viz., a wheel or ring having an overhanging flange cut with internal teeth; a smaller wheel cut with external teeth, and a pinion or pinions carried on a ring or disk and filling the space between and engaging with the two. The peculiar feature about this form of gear is that, without altering the size of any of the gear wheels, no less than seven variations can

be obtained by simply varying the relationship of the parts to each other—that is, as to whether they are severally driving or driven members.

Various other gears that have since been put on the market were described, but no attempt seems to have been made on the part of the author to do more than give general ideas on the main subject.

Some Sample Troubles.

"This giving advice at long range is sometimes mighty funny business," remarked the rider who has been waiting for his mount for this year, in the mean time trying to keep posted by reading everything published about his hobby.

Asked for an explanation of his meaning, he related the following story:

"Some time ago a motocyclist was having considerable trouble with his machine, and finally traced it to his sparking. Among other things, he tried changing his spark coil. After trying five or six, and, as he claimed, breaking them all down, he wrote to one of the papers and asked for advice in the matter. The advice given him was all of the negative kind. That is, after telling him what might be the trouble, and then hedging by saying that these are not the probable troubles, he was advised to consult the makers of the coils.

"The advice seemed so indefinite, and as I once had the same experience I wrote him to look at the points of his spark plug. In my case the entire trouble was that the points were so far apart that the air gap resistance, or insulation, was too great for the coil to overcome it and suffered in consequence."

What it Does for Mind and Body.

The benefits no less than the delights of cycling have been dwelt upon in eloquent and forceful language time and again. The universal adaptability of the two wheeled machine, its ubiquity, its subsidence to the low price level, all serve to lend strength to the claims made for it.

The exhilaration of well oxygenized blood makes the bicyclist's brain clear, the eye bright and the tongue nimble.

Life shakes off its dull care, and even debt looks less formidable when the ten mile ride has sent a fellow's blood coursing through its channels, forcing impurities out with every lungful of breath and drinking ozone in with every inspiration.

That great health helper system, by which the homely but beneficial process of perspiration is carried on, is stimulated to action, the liver is awakened to a realizing sense of its responsibilities, the digestive department calls for more food and transforms it readily into blood, muscle, nerve force and will power—and there you have the noblest work of creation, a sound mind in a sound body!

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

WATERBURY'S SCHEDULE

Despite a Dog in the Manger the Dealers There Stand Together and Hold Prices.

With one exception the dealers and repairmen of Waterbury, Conn., have joined in the adoption of a repair tariff and in a Sunday closing agreement. The exception, of whom unpleasant stories are told, is playing the usual dog-in-the-manger game. He is heralding his price-cutting and his open-Sunday policy. The other dealers are, however, holding fast to the following schedule:

AXLES.	
Crank	\$2.50
Hub, each wheel.....	.50
CARRIAGE WHEELS.	
Wheels cleaned, each.....	.50
Tires fitted, each.....	.50
One spoke.....	.50
Two spokes.....	.75
Metal base valve.....	1.50
Tire vulcanized.....	2.50
Wheels trued, each.....	1.00
Tires plugged.....	.50
Puncture Cure.....	.75
Cementing tires, each.....	.25
CLEANING.	
Wheel.....	1.00
Wheel, with coaster-brake.....	1.50
Chainless wheel.....	2.00
Wheels, each.....	.25
Coaster-brake.....	.75
Chain.....	.25
Spokes, two wheels.....	1.50
Hanger.....	.50
Pedals.....	.35
Heads.....	.50
COASTER-BRAKES.	
M. row.....	7.00
New Departure.....	7.00
Spoon.....	7.50
Barwest.....	6.00
CONES AND CUPS.	
New cone, front and rear.....	1.00
New cone, hanger.....	1.50
New ball cup, wheels.....	1.50
New ball cup, hanger.....	2.00
CRANKS.	
One crank, 3-piece hanger.....	.75
Welded.....	1.00
Retapped.....	.75
Chain repaired.....	.25
ENAMELLING.	
Frames and rims.....	4.00
Frames without rims.....	3.50
Frames stripped for enamel.....	2.50
Frames stripped for enamel with rims.....	3.00
Stripping, extra.....	.25
FORKS.	
New forks.....	5.00
One side.....	1.25
Two sides.....	2.00
Fork crown.....	2.00
Fork stem.....	1.50
One fork tip.....	1.00
Two fork tips.....	1.50
Forks trued.....	.75
FRAMES.	
Frames lined.....	2.00
Cutting frames.....	7.50
One tube and enamel.....	6.00
Two tubes and enamel.....	7.00
One tube without enamel.....	4.00
Two tubes without enamel.....	5.00
New head and enamel.....	6.00
Rear stays, top or bottom.....	6.00
New hanger.....	10.00

GRIPS.

Cork .....	.25
Leather .....	.50
Rubber	1.00

GUARDS.

Chain	1.25
Dress	1.25
Relaced .....	.75

HEAD fittings..... 2.00

NUTS.

One .....	.15
Two .....	.25
Lock nut, hanger.....	.50
Cotter pin.....	.25

RENICKELING.

All parts, less spokes.....	5.00
Handle bars, with grips.....	1.00
Seat post .....	.50
Forks	1.50
Cranks	1.00
Sprocket.....	1.00
Head fittings.....	1.00

SPROCKETS.

Rear	1.25
Truing .....	.50

SPECIAL WORK.

Per hour.....	.50
---------------	-----

SPOKES.

One .....	.25
One, sprocket side.....	.40
Spokes blued.....	2.00

TRUING WHEELS.

Single .....	.50
Both	1.00

TIRE REPAIRING.

Plugging, each.....	.25
New valve.....	.25
Metal base valve.....	.50
Valve repaired.....	.25
Tire vulcanized.....	1.00
Puncture Cure.....	.50
Inner tube patched.....	.50
Plugging or vulcanizing cheap tires	
not guaranteed.	

WHEELS.

New rim, plain.....	2.00
New rim, enamel.....	2.50
One wheel respoked.....	2.50
Two wheels respoked.....	4.00
One wheel respoked with rim.....	3.50
Two wheels respoked with rims.....	6.00
New rear hub.....	3.00
New front hub.....	2.50
New rear wheel.....	5.00
New front wheel.....	4.50

The Nickel Plating Bath.

In nickel plating the balance of the bath between acidity and alkalinity can be correctly kept by using rolled and cast anodes. Rolled anodes tend to make the bath acid, cast anodes tend to alkalinity. Obviously, then, if the bath is too alkaline the withdrawal of a few cast anodes and the substitution of a few more rolled ones, and vice versa, maintains the balance. This is held to be far better than physicking the bath with ammonia or sulphuric acid, which makes the liquid poor.

Where the Word Originated.

The origin of the word bicycle, thus spelled, is generally credited to J. I. Stassen, an Englishman. It first occurred in an application for a patent filed by him on April 8, 1869.

CRANK LENGTHS

Some Illustrations That Show Both Sides of the Long-or-short Argument.

"Mechanically it is difficult to demonstrate the principle of proportionate crank leverage on the modern safety from its deceptive small appearance. An 84 gear, for instance, does not to many convey a wheel seven feet in diameter, covering a fraction over seven and one-third yards in one revolution. If we imagine it this extent in diameter, a better idea is conveyed of what is the proper method of propelling such a vast circle.

"When weighted with the rider it becomes a resisting force in proportion as its momentum is retarded—ascending an incline, for example, to the point—a very common one—when further propulsion becomes impossible, and the rider perforce gets off and pushes. This does not necessarily prove that the rider's strength is deficient, or that the incline is unrideable, or that the big wheel is too big; it might reasonably only be a question of inadequate crank leverage.

"Let me illustrate this another way: Take a big wheel with a resisting belt force, and for leg substitute arm propulsion. Were this attempted with an extremely short crank fixed to the hub, the operation would be difficult compared with a longer crank distributing the leverage over a wider radius. This would be so obvious that common sense would suggest an increased crank length to obtain a better purchase power.

"This is precisely what occurs with a short crank and a high gear—a disproportion of mechanical leverage. We have thus seen the importance of a correct proportionate crank leverage.

"Undoubtedly a reasonably high gear and good crank length is preferable to a low gear and short crank, and for this reason, that the latter is not many degrees better than the wabbliness of the old velocipede, whose 36 inch direct pedal wheel covered 3.1416 yards, while many modern safeties, geared as low as 50 inches, only cover 4.3611 yards—roughly, four and one-third yards—in one revolution of the pedals.

"This and similar gears is easily enough driven up an incline at all rideable, but the effect is an incessant pedalling to overcome the short 'dead' wheel point, which to many riders is very fatiguing over a long distance.

"Now, an 84 gear with 8 inch cranks covers 7.3304 yards—roughly, seven and one-third yards—at each revolution of the pedals (the 'dead' wheel point thus being advanced three yards over the 50 inch geared wheel, with this material difference in favor of the higher gear, that the machine runs immensely steadier with no greater propelling force, since the energy is distributed by the greater crank leverage.

"It is immaterial what the length of limb is, because, if properly seated in each case, the saddle pillar would, of course, be proportionately lower to allow for the additional pedal reach of the longer crank, thus retaining the best angle of propulsion, if this has already been ascertained, as it ought to be.

"It is on this point, doubtless, that many short crankists are misunderstood. They prefer low gears and short cranks because their active muscles dominate; but this does not affect the mechanical law of a proportionate leverage yielding better results from an equivalent power, with a greater reservation of energy."

DUNLOP'S EARLY TRIUMPHS

The Valve Problem, the First Race and the First Company Organized.

Long after J. B. Dunlop had successfully evolved the pneumatic tire itself, the valve was a matter of extremest vexation; it was, indeed, the most difficult problem with which he had to deal. He ransacked all the rubber shops, but could find nothing to fill the want. The valve of the air cushion closing with a screw was about the best thing to be had, but this Mr. Dunlop knew would be wholly inadequate for the compression needed for a bicycle tire.

With characteristic patience and perseverance, not being able to find what he wanted, he set to work to invent and make it. Having devised the first pneumatic tire, he now devised the first pneumatic valve. The valve is in principle the same as that used to the present day.

He bought a vulcanized knitting needle, very smooth and hard, and cut off an inch. This he inserted into the feeding bottle tubing, for which it was a tight fit, and across the end he fastened a slip of rubber to prevent the needle slipping through, but with space on either side for the passage of the air. As illustrating Mr. Dunlop's attention to trifles, the vulcanite knitting needle was selected first because its extreme smoothness prevented any air passing between it and the contracted rubber tubing, but also because the rubber has a tendency to adhere to metal—a tendency which is still occasionally a source of trouble in the modern valve.

The valve having been invented, it was necessary to test it. For this the credit belongs to young Johnny Dunlop, who, under his father's inspection, was developing a marvellous aptitude for mechanics.

Having inserted the bit of vulcanized knitting needle, he, as it were, milked the air from the outer portion of the tube, pressed it quite flat, bent over a piece at the end and tied it tight. If the air could make its way back through the end, plugged by the vulcanite, the tube would again become round and the valve prove worthless. If the tube remained flat the valve was stanch. He put the fragment of tubing in his pocket and went off to spend the day with his father at a flower show. When they returned in the evening the tube was as flat as when they started.

All through the winter of 1888 the first pneumatic bicycle ran over rough roads and smooth, over wet roads and dry, at the cost of a single puncture. Early in the spring of 1889 the firm of Edlin & Sinclair began the regular manufacture of the machines. Patterns and castings were secured from Glasgow for the frames, and Mr. Dunlop taught Mr. Sinclair (the future manager of the Dunlop Co.) in a private room how to make

pneumatic tires. In this way two or three dozen bicycles and tricycles were manufactured.

But the difficulty still remained to induce cyclists to buy or use them—a difficulty that nowadays it is not easy to understand. Fashion was responsible. Cyclists were dandies in their way, proud of their machines, as horsemen of their mounts; each innovation to unaccustomed eyes seemed a monstrosity at first.

Besides, there can be no question that the first specimens of the "rag and rubber" tire were as ugly and clumsy to look at as they were swift to go and easy to ride, and that is saying a good deal.

At that time the captain of the cycle club in Belfast, and the king of the road, was a young fellow named "Bill" Hume, and both manufacturers and inventors set their hearts upon him as the purchaser of the first pneumatic bicycle. But he proved a shy fish, and hard to land. He was a racer, of course, and he doubted the racing qualities of the new tire, which he confessed, as all who could be induced to ride confessed, was the fastest and easiest on the road. Mr. Dunlop demonstrated that its superiority was not greater on the road than on the track. The hesitating cyclist was bribed by the promise of the loan of a pneumatic racer then in progress of manufacture for the Belfast Queen's College sports in the ensuing May, and so the bargain was clinched. But Hume's Humber had to be taken off his hands at a liberal allowance, and so it happened that the first pneumatic bicycle was sold at a loss.

The Belfast college sports in May, 1889, were a great day for the pneumatic tire; they were, in point of fact, the turning point in its career. The sports were the chief athletic event of the year, and the cycle contests were the chief events of the sports. One race in particular attracted universal interest and excitement. It was an open mile with a limit handicap of sixty yards, and the prize was a superb gold watch, presented by Sir Richard Wallace.

The contest drew the racing cracks together from all parts of Ireland. The grounds were thronged with spectators. It is important to note that among the competitors in that historic contest were Arthur Ducros, then the Irish champion, and his brothers Alf. and Harvey, jr., and among the spectators was Harvey Ducros, sr., the first and present chairman of the Dunlop Co.

The chance of local talent was laughed at amid such competitors. No man is a prophet in his own country, still less in his own city. Poor "Bill" Hume was greeted with shouts of good humored ridicule as he rode on the ground with his clumsy "rag and rubber" tires.

"I was a wee bit ashamed of it myself," Mr. Dunlop confessed, "and hid away with Johnny at the back of the crowd."

The race was four laps, and for the first lap Hume kept modestly and discreetly in the rear. The laughter swelled to a storm. "Go it, old mud cart!" echoed and re-echoed from the crowded course as he went by.

"No wonder that he's slow; sure his mare is in foal!" shouted a wag, and the joke was bandied about amid shouts of laughter. But at the second round Hume, who was still going well and strong, began to creep past the hindmost competitors, and the ridicule gave place to surprise.

When the third round was over only the flyers were in front of him. The bell rang for the final lap, and slowly and surely he drew nearer and nearer to the leaders. Surprise in turn gave place to excitement and enthusiasm.

Two hundred yards from home, with a sudden and wonderful spurt, he reached and passed the front men almost as though they were standing still, and won by a clear sixty yards, amid such thunders of applause as were never heard on the college grounds before or since.

Presently a cry went up from all on the ground for the inventor of the wonderful tire, and poor, shy Mr. Dunlop was sought and found in his retirement, and was brought forward, blushing, amid uproarious applause, to the centre of a select circle, to whom he was induced to explain the principle of his invention.

There were four bicycle contests that day—three for racers and one for roadsters—and "Bill" Hume on the "rag and rubber" tire won them all. The triumph of the invention was complete.

It was the prelude to further triumphs in Ireland, and subsequently in England.

As the reputation of the pneumatic spread abroad, Mr. Dunlop was approached from various quarters with proposals for the promotion of a company for the development of the invention. One was from a Belfast man, an agent of Redfern & Co., London. Starley, of Coventry, was also spoken of.

But eventually Mr. Gillies, the then manager of the Freeman's Journal Co., and Mr. Bowden, a cycle agent, met Mr. Dunlop at the Highland sports, Belfast, in 1889, with a definite proposal. He was anxious to keep the company in Ireland, and therefore agreed to moderate terms. The company was to be floated at a capital of £20,000. The inventor was to receive £500 cash and three thousand £1 shares, and the two promoters 750 shares each. Ultimately, however, Harvey Ducros, sr., took the promotion off their hands on precisely the same terms. The capital of £20,000 was not completely subscribed. The company's capital is now £5,000,000.

The Retail Record.

Edgerton, Minn.—Carson & Smith opened store at 234 Wellington street.

Westernville, N. Y.—Alfred Andregge opened store.

ville, N. Y.—Alfred Andregge opened store.

East Norwalk, Conn.—Roberts & Weed opened store.

Alexander City, Ala.—A. R. Robinson, fire; total loss; amount not given.

If
You Are
Interested
in
Automobiles

**The MOTOR
WORLD** *Dedicated to the
Automobile
& Kindred
Interests*

WILL SURELY
INTEREST YOU.

It is published for the information
of the average mortal; no dic-
tionary of mechanical
terms is needed to
understand it.

PUBLISHED EVERY THURSDAY
AT 123-125 TRIBUNE BUILDING,
NEW YORK CITY.

\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.

The Week's Patents.

701,967. Bicycle. Albert B. Titus, Bloom-
field, Ind. Filed April 3, 1901. Serial No.
54,187. (No model.)

Claim.—1. In a bicycle frame, a rigid head
and seatpost tube, and rigid connection be-
tween the bearing of the rear driving wheel
and said seatpost tube, in combination with
T sleeves on said head and tube having slots
in their laterals, and a rectangular spring
bar secured at its ends in said slots, substan-
tially as set forth.

702,003. Fan Attachment for Bicycles.
Philip E. Hannum, Carthage, Mo. Filed
May 18, 1901. Serial No. 60,912. (No model.)

Claim.—1. A bicycle attachment compris-
ing a support adapted for application to the
frame of a bicycle, and a bladed fan-carrying
canopy revolvably mounted upon the support.

2. A bicycle attachment comprising a re-
voluble canopy or sunshade provided on its
upper side with blades and on its under side
with a fan.

702,160. Clamp Particularly Adapted for
Securing Fittings to the Frames of Cycles.
Percy B. H. Seabrook, London, England.
Filed April 1, 1902. Serial No. 101,008. (No
model.)

Claim.—1. In a clamp the combination of
a strap adapted to encircle a support, means
to permit the overlapping of the ends of the
strap without their lying one upon the other,
a projection on one end of the strap, a lever
pivoted to the other end and adapted to oper-
ate against the projection as a fulcrum, so
that tension is put upon the strap, means for
turning the lever upon its fulcrum, means
for retaining the lever in its operative posi-
tion and means for securing an article to the
clamp substantially as set forth.

702,292. Bicycle Package Carrier. Thomas
H. Edmonds, Washington, D. C. Filed
March 27, 1902. Serial No. 100,272. (No
model.)

Claim.—1. A package carrier for bicycles
comprising a main stem or shank having a
longitudinally adjustable clamping jaw, and
at its inner end an eye and fastening de-
vices, and at its outer end two arms and
clamping posts, provided with heads having
sharp edges, longitudinally adjustable on
said arms, substantially as described.

702,337. Brake Mechanism for Cycles,
Motor Cars, etc. George E. Bennett, Croy-
don, England. Filed March 10, 1902. Serial
No. 97,524. (No model.)

Claim.—1. A brake, comprising, in combi-
nation, a suitably fulcrumed operating lever,
an adjustably fulcrumed power-distributing
rod, an operated part in proximity to each
wheel, a connection extending from the op-
posite ends of said adjustably fulcrumed
power-distributing rod to the operated parts
and means for adjusting the fulcrum rela-
tively to the opposite ends of said power-
distributing rod, substantially as described.

Should Have Some Attention.

Pedals get comparatively little attention
beyond a slight oiling now and then. Some
riders seem to forget that one's concen-
trated physical force must pass through the
pedals before it can reach the crank axle
and be conveyed by the chain to the driving
wheel, where it is converted into speed, or
they would be more careful to keep them in
perfect order. Being so near the ground,
they are bound to pick up dust and dirt, and
this, combined with the fact that very small
balls have to be used, makes them particu-
larly susceptible to clogging.



DE LONG Motocycles

ALWAYS GIVE SATISFACTION.

There are no tanks or
bags attached to it.

FULLY PROTECTED BY PATENTS.



PRICE \$200.

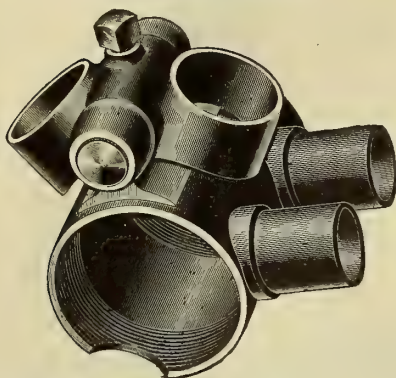
INDUSTRIAL MACHINE CO.

SYRACUSE, N. Y.



Fauber Hinge Bracket

for Cushion and Spring
Frame Bicycles.

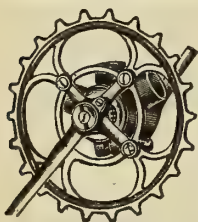


The hinge parts are made of forgings. Bearing points are wide apart lessening chance for lost motion.

The hinge pin is a hardened and ground taper pin. Bracket for 1-8 in. and 1 in. tubing fitted to all styles

FAUBER HANGERS

FAUBER MFG. CO., - Elgin, Ill.



"D. & J." HANGERS

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.
ABSOLUTELY THE BEST

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

AND
The 1902 Light Weight Oil Lantern.
STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY
THE NATIONAL CEMENT & RUBBER MFG COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

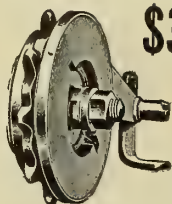
Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

FOR SALE.—New 1902 Columbia Chainless;
fixed gear; used 75 miles; perfect condition; \$50
cash. E. BROWN, 311 Spruce St., Scranton, Pa.



\$3.00 Coaster Brake

FITS ANY HUB.

Screws on in place of the
usual sprocket. Anyone can
apply it. For free booklet and
particulars, address

Canfield Brake Co., Corning, N. Y.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
423 Broome St., New York

IDEAL HANDLE BARS

made in all shapes with extensions in 2½ inches, 3½ inches and
5½ inches forward throw. Also with straight stems with and
without internal binders. The cheapest bar on earth, quality
considered. Sole manufacturers

IDEAL PLATING CO.,
3 Appleton Street, BOSTON, MASS.

You all know what the diamond stands for among
precious stones. You can't well afford
not to know that

D·I·A·M·O·N·D·T·I·R·E·S
occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.

ARNOLD, SCHWINN & CO.
CHICAGO.
WORLD BICYCLES.
Jobbing Wheels a Specialty.
LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

REGAL BICYCLES.

STEARNS BICYCLE AGENCY,

General Distributors,

SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

**The Only Tires Fit For
Motor Bicycles—**

**GOODYEAR
DETACHABLES**

Fit Any Rim.

GOODYEAR TIRE & RUBBER CO. AKRON, OHIO

**WYOMA
Coaster Brakes.**

UNIVERSAL AND DETACHABLE.

We control following patents:

*June 12, Aug. 14, Dec. 25, 1900,
Feb. 19, March 26, April 1, 1901,*

covering all features of construction of these
brakes. We also control trade-mark "E. Z."
and will manufacture all brakes so stamped.

See issue of January 1st for description
and watch our Ad.

Reading Automobile & Gear Co.,
Tenth and Exeter Sts., READING, PA.

"PERFECT"

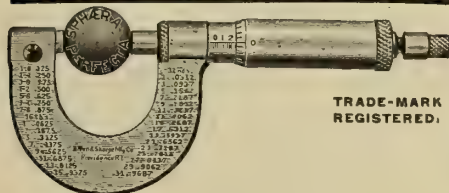


OILER.

For High Grade Bicycles. The best and neatest Oiler in the
market. **DOES NOT LEAK.** The "PERFECT" is the
only Oiler that regulates the supply of oil to a drop. It is ab-
solutely unequaled. Price, 25 cents each.

We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK



**STEEL
BALLS**

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.
That every ball is within 1-10,000 of an inch of exact size.
That the balls are made of the best quality of true crucible tool steel.
That balls bought from us at one time will be exactly like balls of a similar size bought from us
at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

The Week's Exports.

Antwerp—19 cases bicycle material, \$466.
Amsterdam—3 cases bicycles, \$90; 5 cases
bicycle material, \$110.
Aberdeen—23 cases bicycles, \$415.
Athens—1 case bicycles, \$39.
Bale—6 cases bicycle material, \$352.
British East Indies—52 cases bicycles and
material, \$1,649.
British West Indies—7 cases bicycles and
material, \$161.
Bergen—1 case bicycles, \$80.
British Australia—161 cases bicycles and ma-
terial, \$3,541.
Copenhagen—2 cases bicycles, \$50; 40 cases
bicycle goods, \$1,278.
Constantinople—1 case bicycles, \$75.
Christiania—17 cases bicycles, \$518; 3 cases
bicycle material, \$104.
Cuba—9 cases bicycle material, \$183.
China—7 cases bicycles and material, \$453.
Dutch East Indies—1 case bicycles, \$109.
Danish West Indies—2 cases bicycle mate-
rial, \$28.
Dutch West Indies—3 cases bicycles and
material, \$114.
Egypt—61 cases bicycles and material, \$2,811.
Genoa—16 cases bicycle material, \$1,365.
Glasgow—30 cases bicycles, \$360.
Gothenburg—1 case bicycles, \$15.
Hamburg—17 cases bicycles, \$640; 34 cases
bicycle material, \$1,212.
Havre—19 cases bicycles, \$587; 52 cases bi-
cycle material, \$1,465.
Japan—104 cases bicycles and material, \$998.
Helsingfors—4 cases bicycles, \$90.
Leipzig—1 case bicycle material, \$10.
Liverpool—61 cases bicycles, \$842; 3 cases
bicycle material, \$83.
London—10 cases bicycles, \$155.
Mandal—1 case bicycle parts, \$42.
Milan—19 cases bicycles and parts, \$278.
New Zealand—178 cases bicycles and mate-
rial, \$5,223.
Peru—2 cases bicycles and parts, \$102.
Southampton—2 cases bicycles, \$85; 15 cases
bicycle material, \$1,233.
Stockholm—14 cases bicycle material, \$800.
Rotterdam—32 cases bicycle material, \$1,053.
Turkey in Asia—5 cases bicycles and mate-
rial, \$76.
Uruguay—1 case bicycle material, \$15.
Venezuela—1 case bicycles and material, \$60.

There remain but

**TWO CLASSES
OF BICYCLES,
Boneshakers
AND
CUSHION
FRAMES**

and as appreciation of
the cushion frame's com-
fort increases the number
of "boneshakers," i. e.,
rigid frames, is grow-
ing beautifully and de-
servedly less.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

The H. A. Matthews Mfg. Co.

MANUFACTURERS OF

BICYCLE FITTINGS

of all description and of the finest quality,

SEYMOUR, CONN., U. S. A.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

*Electric Lighted—Chicago,
St. Paul and Minneapolis*

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

*Fast time to Marquette
and Copper Country*

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway • New York 435 Vine St., • Cincinnati
601 Ches't St., Philadelphia 507 Smith's St., Pittsburgh
388 Washington St., Boston 234 Superior St., Cleveland
301 Main St., • Buffalo 17 Campus Martius, Detroit
212 Clark St., • Chicago 2 King St., East, Toronto, Ont.



The Authority of the Cycle World

RELIABLE NEWS

ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.

Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Through all Bookshops and Newsagents or from the

Publisher

ILIFFE & SONS Limited.

3, St. Bride Street, London, E.C.

441 WESTBURY STREET, COVENTRY

THE BICYCLING WORLD

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R.R.

LOWEST RATES
FAST TRAIN SERVICE

BETWEEN

Boston and Chicago,

**St. Louis, St. Paul,
Minneapolis**

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, June 26, 1902.

No. 13

ELMIRA MAN'S HARD LUCK

Odd and Unusual Causes That Brought About Peck's Failure—Liabilities \$14,000.

William H. Peck, one of the trade pioneers and most prominent dealers in Elmira, N. Y., was forced to close his doors on Wednesday of last week. His assets are placed at \$11,000 and liabilities at \$14,000.

Peck's failure also brought down the furniture firm of Peck & Campbell. The causes leading to the trouble are unusually interesting. For some time Mr. Campbell assisted Mr. Peck in his bicycle store. He had had some experience in the furniture business, and last fall with Mr. Peck he formed a partnership, opening a furniture store at 127 West Water street. Mr. Peck continued to conduct his bicycle business at 211-215 West Water street.

In March last a flood visited Elmira, and the new firm suffered a loss amounting to several thousand dollars. In the cellars of the two stores had been stored a large stock of bicycles and furniture, and so suddenly did the water rise that none of these were saved. The furniture was completely ruined and very little was realized from the damaged wheels. Mr. Peck had anticipated a large bicycle business, and had therefore put in a very large stock. Many wheels were sold, but Peck's attorney states that most of them were sold on the installment plan, very few cash sales having been made.

This condition was attributed to the present strike in the local plants of the Empire Bridge Works. The employes had bought wheels on leases, and when they were ordered out, of course, had no funds with which to pay for the wheels which had been purchased. Only last month, the attorney stated, twenty leases had expired, but that none of the purchasers had been able to pay Mr. Peck.

When the furniture store was opened indications were very favorable for the building up of a successful business. A large stock was placed in the store, but soon after the continual losses began to affect both businesses. It was thought until ten days ago that Mr. Peck and Mr. Campbell would be able to meet their financial obligations, and that they would soon be upon

their feet again. However, the plans which had been made fell through, and failure was the only alternative.

The situation for the merchants was made more gloomy by the fact that several large creditors sent sight drafts which Mr. Peck was unable to meet. This injured the firm's credit in the local banks, and therefore sufficient funds with which to tide over the financial trouble could not be procured.

It is thought the stock of bicycles which Mr. Peck has on hand will realize enough, with a few other available funds, to pay up all of the bicycle creditors.

Worcester Plant Still a Worry.

The city of Middletown, Conn., has brought a foreclosure suit on a tax lien against the American Security Co., of New York, which now owns the plant of the Worcester Cycle Co. in Middletown. The tax is on the grand list of 1895, and with the interest amounts to \$1,500. The papers are returnable to the Superior Court the first Tuesday in September.

Will Coast in Syracuse.

The Y. M. C. A. of Syracuse, N. Y., has slated a coasting and braking contest for July 4. The rules that will govern are rather unusual. The contestants will coast part way down the hill, apply the brake at a given signal, and then, just before coming to a dead stop, release it and coast to victory or otherwise.

Why Annual Inspection is Deferred.

Ralph D. Webster, sales manager of the Eclipse Mfg. Co., was among the visitors to New York this week. He reports that the demand for Morrow coaster brakes has been sufficient to postpone the shutdown of the factory for the annual inspection from June to August.

Where big Fall Trade is Expected.

"Despite the fact that it has rained every week this season," write Schollenberg Bros., Wichita, Kas., "business has been good. Our prospects for an immense fall trade, after the crops are gathered, were never better."

To Make Tires in Syracuse.

The Eagle Mfg. Co., of East Syracuse, N. Y., has been incorporated, with a capital of \$25,000, to manufacture bicycle tires. The directors named are Dugrand D. Erway, Benjamin F. Chase and Alexander I. Ellis, of East Syracuse.

WILL BE NOTABLE EVENT

Wide Interest in Motor Bicycle Endurance Test—The Route, Rules and Awards.

If the Metropole Cycling Club's Boston-New York endurance run, July 4-5, does not result in the most far-reaching exploitation that the motor bicycle has yet received, it will be because signs have lost their significance.

Each day is witnessing an increase of interest in all directions, which indicates a field of starters that will exceed expectations. Aside from individual entries, the manufacturers of motor bicycles have apparently grasped the spirit of the occasion, and the resulting rivalry is lending added interest to the event. It is practically certain that no manufacturer of any pretentiousness will start less than three men. The makers of the Mitchell, the Royal and the Indian have each made three nominations, and rumors say that there may be three or four or five times as many Mitchells at the line when the start is made. The American Cycle Mfg. Co. had four men on Columbia motor bicycles going over the course on Saturday and Sunday last, while the Orient, Holley and Marsh people are each understood to be grooming from three to five men for the fray. Only the Auto-Bi and Merkel folks are in doubt.

In addition there is some little rivalry between the two metropolitan motorcycle clubs, the Alpha, of Brooklyn, and the New York. Each is threatening to enter its entire membership, and a fair proportion are more than likely to start.

The contest will be scored on a basis of 100 points for each control. The perfect score will be, therefore, 1,000 points. The awards will be as follows: One grand prize, a gold medal, to the contestant scoring the greatest number of points; Metropole blue ribbons to those scoring within 50 points of the winner's total; red ribbons to those scoring within 100 points, and yellow ribbons to those scoring within 150 points of the winner's total.

The committee has decided on the further points that were not provided for in the rules published in the Bicycling World of

June 12. The first of these is the penalty for the alteration of sealed parts, and a more complete ruling on the paragraph which reads: "Entire changing of machine will be cause for absolute disqualification." The complete ruling includes substitution of the motor entire, as well as the machine, as a cause for entire disqualification.

The determination of penalties for substitution of sealed parts makes the penalty 5 points for each substitution. The sealed parts include the crank cases, reducing gear cover, spark controller, cylinder, cylinder head, carburetter, driving and driven pulleys or their equivalent, battery case, gasoline tank and lubricating oil container.

To designate the contestants two duplicate numbers will be provided, one to be fixed to the machine and one to be worn on the right arm of the contestant. These numbers will be as conspicuous as possible, and it devolves on the part of each rider to see that they are kept in place.

The first thorough system in the matter of providing the riders with a complete schedule of maximum and minimum non-penalty time arrivals at each central has been worked out. Each rider will have his own schedule, which will be on a card. The cards will be covered with thin celluloid and bound with tape, making them impervious to rain and keeping the figures from obliteration by soiling or other conditions.

The care with which this matter has been attended to is shown in the following sample schedule:

ENTRY NO. 1—CLASS B.

Start Boston, July 4, 8 a. m.

Control.	Miles.	Unpenalized limits. Earliest arrival.	Latest arrival.
1—S. Framingham	23	9:32 a. m.	10:18 a. m.
2—Worcester	22	11:00 a. m.	11:44 a. m.
3—*Warren	26	12:44 p. m.	1:36 p. m.
4—Springfield	29	3:25 p. m.	4:23 p. m.
5—Hartford	26	5:09 p. m.	6:01 p. m.
Leave Hartford, July 5, 8 a. m.			
6—Meriden	20	9:20 a. m.	10:00 a. m.
7—New Haven	20	10:40 a. m.	11:20 a. m.
8—*Bridgeport	20	12:00 a. m.	12:40 p. m.
9—Greenwich	34	3:01 p. m.	4:09 p. m.
10—New York	34	5:17 p. m.	6:25 p. m.

*Compulsory stop for meal, 45 minutes.

If the entrant was in Class A his times would be the same for earliest arrivals, but for latest unpenalized arrivals his times would be 10:52 a. m., 2:17, 2:15, 5:06½ and 6:40 p. m. on July 4, and 10:30, 11:50 a. m., 1:10, 5:00 and 7:16 p. m. on July 5, in the order of controls. Likewise in Class C, the earliest arrival times would be the same, the latest unpenalized arrivals being in their order, 9:55, 11:22 a. m., 1:10, 3:54 and 5:35 p. m. for July 4, and on July 5 they would be 9:40, 11:00 a. m., 12:20, 3:35 and 5:51 p. m.

These schedules show that in all classes the fastest time allowed is at the rate of 15 miles per hour. In Class A the slowest time will be at the rate of 8 miles per hour, in Class B at the rate of 10 miles per hour, and in Class C at the rate of 12 miles per hour. By the slowest times is meant the rate at which the

riders must travel between controls before tardy penalties will become effective.



In the matter of these penalties for arriv-

ing later than the slow schedule their should be added 1 hour and 40 minutes (100 minutes) to each slow schedule before the 100 points in each control will be consumed. The exception to this being that 1 point will be given to all riders positively finishing a control, no matter how late they may be beyond the 100 minutes. In other words, no rider eventually making any control will be counted entirely out or reported as missing, as has been the case in motor vehicle endurance runs.

It should be noted that the total time for each day is based on an average rate of travel of 15 miles per hour for the entire distance. By this it is to be understood that should any rider fall way behind even his penalized time in any of the controls, he can make up the difference, as no overspeed penalty will be charged against him so long as he does not reach any control more than the provided for ten minutes ahead of his fastest schedule. After the Warren and Bridgeport controls 45 minutes have been added to equalize for the 45 minutes compulsory stops made at the above two towns for meals.

At all controls checkers will be provided with blanks for recording each rider's position and time of arrival. Gasoline and lubricating oil will also be arranged for.

Arrangements have been made for special accommodations at the Lenox Hotel, in Boston, as headquarters and for out of town entrants. This hotel is on Boylston street and just one block from the start.

For the route it can be said that it is undoubtedly the best that could be found in the entire country, many miles of it being laid over the State highways of Massachusetts and Connecticut. Where these roads, which are boulevards to all intents and purposes, do not prevail the general character of the surface is fair to good, with the exception of about 17 miles in the stretch between Worcester and Springfield. The character of this stretch varies with the prevailing weather conditions. The general route and towns en route are shown in the accompanying map.

Going out of Boston proper Dartmouth street is taken to Beacon street. From here the route is laid out to pass through Coolidge Corner, by Chestnut Hill Reservoir and on to Newton Centre. From here the run is made to Great Sign Boards, Newton Lower Falls, Wellesley Hills, Wellesley, Natick and to South Framingham, the first control. All of this is over the famous Massachusetts State highways.

For the next control the route is Framingham, Southboro, Westboro, North Grafton and then Worcester. Control No. 3 passes through Leicester, Spencer, East Brookfield, Brookfield, West Brookfield, Warren, West Warren, Brimfield, North Wilbraham, and in to Springfield. From here to the finish the route is west of the Connecticut River, through Windsor Locks, Windsor and in to Hartford for the first day's run.

Leaving Hartford on the morning of the 5th, the route runs through Elmwood, New Britain to Meriden, the next control. Then on through Wallingford, North Haven, to the New Haven control.

The next control, Bridgeport, is reached through Milford and West Stratford. Leaving Bridgeport the route runs through Fairfield, Southport, Westport, Norwalk, Stamford, Mianus, and into Greenwich for checking. Leaving this control the run is made through Portchester, Rye, Mamaroneck, New Rochelle, Bartow, Fordham, then to the left down Jerome avenue to McComb's Dam Bridge, which is crossed to reach Seventh avenue. Down Seventh avenue to 125th street and across to Fifth avenue, and then down to 59th street and across to the club headquarters.

CONDITIONS IN DENMARK

Visiting Tradesman Explains the Situation
—How Germany Gains its Ground.

If Carl Simonsen, of Copenhagen, had made his remarks in England there is no telling how many "hits" the lion might have thrown. Mr. Simonsen, who is the head of the Skandinavien Storste Cycle-Magasin, had been in this country for some three weeks, and sailed for home on Wednesday. He was interviewed by a Bicycling World man on Monday, and at that time, without apparent intention, gave the lion's tail a twist.

"America, England and Germany all unload their overstocks on us and drive prices away down," he said. "Much of it has been very poor stuff, and the worst of it all came from England."

Reminded that the British press maintained that only Englishmen knew how to build good bicycles and how to eschew cheapness, Mr. Simonsen raised his brows and smiled.

"That may be," he responded, "but the cheap bicycles that came to us from England were rotten. They had as much as anything else to do with making our people turn to American goods. You certainly know how to finish your goods and put style into them; and your factories! It is remarkable the quantities they produce. After seeing the big English factories, that are double the size of yours, I can hardly understand how they do it."

"Are the Germans really cutting a big figure in the Scandinavian countries?"

"Yes, they are important factors in the trade. They are able to do a big business almost anywhere, because of the long credits they give. Twelve months' credit is not at all unusual. I can't understand how the Germans can afford to do it, but it is a fact that a man can buy their bicycles in January and pay for them in November or December, or almost whenever he pleases. Over here it is just the reverse. The Americans give virtually no credit at all; they require cash in New York."

"What class of bicycles are in demand in Denmark?"

"Those of medium price. I myself handle the Crawford, but do not sell a great many of them. I do most of my business in fittings. I buy a great quantity of Fauber goods."

"Then, there is a deal of assembling done in Denmark?"

"Yes; a great deal of it. The duty on complete bicycles is very high, and the authorities would raise it if they dared. They have even gone so far as to classify enamelled frames as lacquered ware, which is taxed nearly five times as much as fittings."

"How is business in Denmark?"

"About the same as it is here. It has settled down, but I really think that in propor-

tion to its population—about 2,500,000—there are more bicycles in use in Denmark than in any other country in the world."

Hagerstown Lets Fall Some Hints.

The Hagerstown (Md.) papers print the following as "a statement issued by the managers of the American Bicycle Co.'s plant" at that point:

"There has been a large appropriation made for improvements here, such work as will bring this shop up to modern style and equipment. It will be the equal, if not the superior, of any shop in this land or the trust. We are receiving bids for a new steam plant complete, and three new elevators are going in. An electric plant will be added and the factory ready for a long and steady course of work. We will then see what can be done. We sold this past year between 39,000 and 40,000 wheels, considerable of a comparison with last year, when we sold 17,000. We are now preparing on advices to start in the middle of July and build 250 wheels every day for a year—at our lowest calculation 60,000 wheels. This will employ at least 450 men steadily. We have more wheels to make than any concern in the trust, and will be soon ready to build them."

How Albany and Troy Differ.

Although Troy is but little more than a good stonethrow from Albany, there is evidently a greater difference in the trade atmosphere of the two places. How great is the difference may be judged from the experience of Henry Allmen, of the Wisconsin Wheel Works' New York staff. Armed with batches of inquiries regarding Mitchell motor bicycles, he visited both places some ten days since. In Albany he had no trouble in interesting and securing an agent and booking his order. In Troy, which practically is but across the river, he found conditions reversed.

"Although I visited every dealer in the place," said Allmen, "and placed at their disposal a batch of the inquiries from prospective customers, I could not induce one of them to take the agency. After exhausting every means at my command I myself visited and went to work on the inquirers themselves. As a result, I sold three motor bicycles in less than five days, and could have sold more had I been able to remain longer."

Have 1903 Model Already Completed.

While other makers have been planning their 1903 models, the Bretz Cycle Mfg. Co., early as it is, have been producing theirs. A Bicycling World man who was last week privileged to see the completed 1903 Wolff-American at the factory, in Syracuse, can attest it is full of evidence that the Bretz people have not been content to believe that the much mooted "finality in bicycle construction" has been reached. The new model fairly bristles with newness, and while it is, of course, too early to deal with details, it can be said that it embodies a refinement throughout that was hardly deemed possible.

ATLANTIC CITY PROGRAM

Outline of Events That Will Meet the Meet
in City by the Sea.

While the full programme has not yet been settled, the committee in charge of the L. A. W. national meet at Atlantic City, N. J., July 16-19, have arrangements sufficiently well advanced to render an outline possible. Runs will, of course, form a considerable feature of the meet, and, owing to the close proximity of Philadelphia to Atlantic City (sixty miles), a daily run from the former city will be possible and should assure an attendance of Quakers that should go far to insure the success of the meet.

The following is a summary of the events as far as decided on:

WEDNESDAY, JULY 16.

- 5:30 a. m.—Run from Philadelphia to Atlantic City (arrive at shore at 11:30).
- 3 p. m.—Opening of headquarters at Grand Atlantic Hotel; registration and issuing of credentials.
- 8 p. m.—Middle distance motor paced races on Coliseum track.

THURSDAY, JULY 17.

- 5:30 a. m.—Run from Philadelphia to Atlantic City (arrive at shore at 11:30).
- 10:30 a. m.—Meeting of national officers at headquarters.
- 4 p. m.—Cycle parade on Pacific avenue.
- 8 p. m.—Cycle races on the Coliseum track.
- 10 p. m.—Pioneers' banquet at Grand Atlantic Hotel.

FRIDAY, JULY 18.

- 5:30 a. m.—Run from Philadelphia to Atlantic City (arrive at shore at 11:30).
- 3 p. m.—Good Roads Convention at Grand Atlantic Hotel.
- 8 p. m.—Cycle races on the Coliseum track.
- 10:30 p. m.—All-night smoker at Inlet Pavilion.

SATURDAY, JULY 19.

- 5:30 a. m.—Run from Philadelphia to Atlantic City (arrive at shore at 11:30).
- 10 a. m.—25-mile handicap road race (course not yet selected).
- 8 p. m.—N. C. A. National Circuit races on Coliseum track.

SUNDAY, JULY 20.

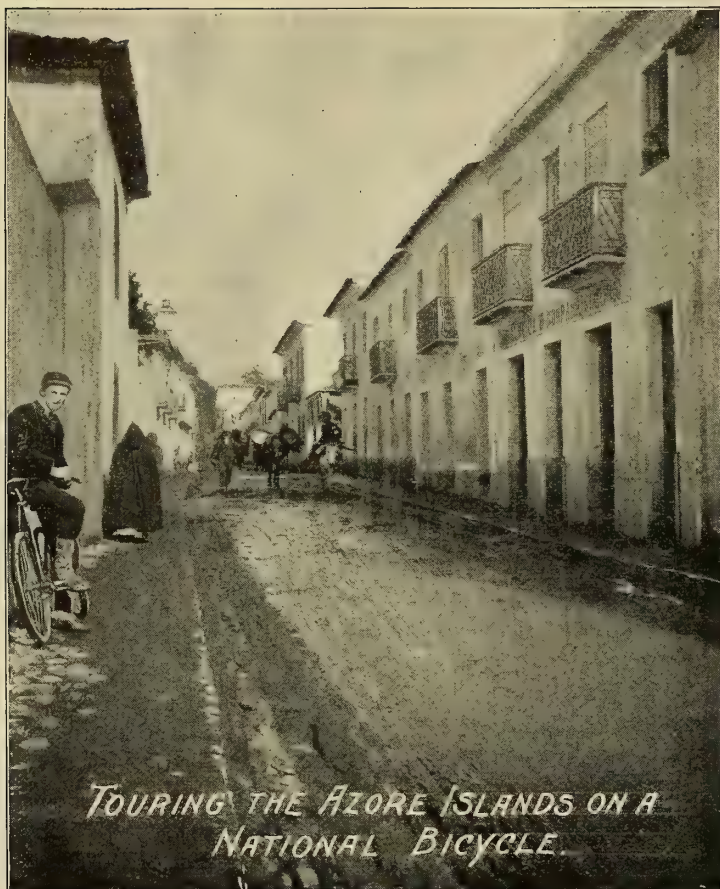
- 1:30 p. m.—Run from Atlantic City to Philadelphia.

In addition to the runs above announced there will be daily runs from Atlantic City to Longport, Somers' Point, Absecon, Egg Harbor City, Port Republic and other places within easy riding distance.

Philadelphia Will Parade Again.

The Philadelphia Cycle Dealers' Association is now planning a lantern parade. The date has not been definitely set, but the event will in all probability occur during the third or fourth week in July.

RIDDEN ALL OVER THE WORLD.



*TOURING THE AZORE ISLANDS ON A
NATIONAL BICYCLE.*

NATIONAL CYCLE MFG. CO.,
Bay City, Mich.

MAY 22, 1902.

GENTLEMEN:—I wish to compliment you upon the superior workmanship displayed in special wheel built for me.

The beautiful little machine arrived day before yesterday, and I could hardly wait until it was uncrated. I placed the machine on exhibition in the store and it attracted all manner of attention. After trying it on the road, find that it is the lightest, easiest running machine I ever owned. This is making a broad statement for the reason that I have had many special wheels built for me in the 18 years that I have been riding. Am very proud of the little wheel, and I wish to thank you for your efforts in designing and building so splendid a machine. Nationals always did run easy, and the riders here are now fully convinced that they are the acme of fine workmanship and bicycle building.

Respectfully,

H. K. SMITH.

The purchase of a National is economy in the long run.
The sale of Nationals is a good business proposition.

A Simple Question.

What tires will be the best for me to use?

FISK TIRES

Because they are the best in every particular.

ONCE TRIED; ALWAYS USED.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00
Single Copies [Postage Paid] . . . 10 Cents
Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, JUNE 26, 1902.

The Model for 1903.

With 1903 models in hand or in mind, it behooves manufacturers to seriously consider the listing of a coaster-brake model pure and simple.

To our way of thinking, the time is over-ripe for the move; the only wonder is that no manufacturer has risen to the occasion and seized the opportunity.

We do not believe the move should be longer postponed. Little, if any, risk is involved, and the price at which manufacturers can purchase coaster-brakes should enable them to list the model at a figure that would be attractive and prove an active promoter of sales.

It is not enough to list the device as an "extra." It is a matter of history that there is no surer way for a manufacturer to anchor an accessory than to list it at an extra price. The cushion frame was a notable example of the sort. The moment makers listed it as a distinctive model, that moment

it began to receive its due and its sales to increase.

Because of the facility with which it may be applied to the bicycle, the coaster-brake has labored under no such handicap as did the cushion frame, but that does not alter the fact that a coaster-brake model will profit all concerned.

There is every reason why it should and no reason why it should not distinguish the catalogues of 1903.

Sales to Unwilling Buyers.

How to sell bicycles to people who do not wish to buy them is a problem which too many dealers are prone to consider impossible of solution.

That it is not impossible, men who keep their eyes and ears open well know. How it may be done is exemplified by the experience of the Rochester dealer quoted in another column. He was waved aside when first he approached the prospective purchaser, and instead of becoming unpleasantly and undiplomatically insistent he took the other tack. He induced the gentleman to try the new model, a spring frame, as a favor to him; that is, to the dealer. The net result was the sale of fifteen of the particular model.

There is nothing strikingly new in the result or in the means taken to achieve it. It simply serves as a moral to adorn a tale which has for its burden that the average retailer either does not make or does not know how to make the most of what is at his command. In the cycle trade he does not "go after customers and keep going," rather does he wait for customers to come to him, and then, like as not, he sells them only what they call for and nothing else.

The idea of seeking diplomatically to interest the caller in a new bicycle or a new sundry rarely enters the retailer's head. The idea of affording a rider without a coaster brake a chance to try a machine fitted with one, or inducing the rider of a rigid frame to try a cushion or spring frame as seldom occurs to him. He hears men and women complain of difficulty in hill climbing without suggesting toeclips or a change of gear, he hears them bewail saddle discomfort without remotely hinting that a change of saddle might afford relief. He listens to complaints regarding the "hard work" of cycling, the effort required to overcome heat, hills and headwinds, but he loses the occasion to plant the motor bicycle germ.

He does not know the value of mailing an

occasional catalogue or circular or of writing a personal invitation to the customers on his books to call and see a novelty or what not that he may have received; he prefers to wait for them to "drop in."

In fact, as a "drifter," as a storekeeper who simply "takes things as they come," the average bicycle agent is of high class. He is an indifferent success, mainly because he does not deserve to be anything else. He is too much hands, too little head. He does not think. He does not know how to make the most of what he has—does not know how to turn it to advantage. He relies too much on luck, more's the pity.

Mystifying Germany.

Is it possible, after all, that Germany's remarkable advance as an exporting nation is due not so much to those causes usually cited—German patience and astuteness—as to a system of practically unlimited credit? Certainly the interview with Mr. Carl Simonsen, of Copenhagen, published in another column, makes strongly for an affirmative, and, coming from a country in which German competition is keen, Mr. Simonsen should be in position to speak with authority.

Germany's advance as a cycle exporter from practically the foot of the list to the very top, passing both England and ourselves, and the manner in which Kaiserland is steadily increasing its cycle exportations, was and is so astonishingly rapid and emphatic as to be mystifying.

Its position practically at the thresholds of the cycle-buying countries of the Continent gave it certain advantages, but not enough of them, all other things being equal, or nearly equal, to account for our being elbowed from the top of the heap.

If long credit is the cause of the German expansion in the markets of the world, it is plainly evident that the exporters of this country have new cause for study. It would seem to require a Morganic exchequer to stand the strain of twelve months' credit, and how the German cycle manufacturer is able to withstand it should be worth finding out. Their purses must be deeper than is generally imagined, or they must have solved problems of economy that would profit our own trade, which is notorious as going to the other extreme—that is, of requiring cash against bill of lading.

There is small room for dispute that when the item of credit is involved long credit will almost invariably account for the great preponderance of trade, and if America is to

hold its own, not to say if it is to make advances, it is for its merchants to thumb the German book.

Tires for Motor Bicycles.

Although it is as yet confined to the comparatively limited circle of motocyclists, a question that is attaining heat and that may yet become what is styled a "burning question" is that which deals with the proper type of tire for motor bicycles.

It is but necessary to mention the subject to start discussion.

The single tube has its advocates, but the burden of all argument undoubtedly favors the detachable double tube tire.

With the motor bicycle a puncture becomes a serious problem; that is to say, the tack or nail that enters the tire on a motorless bicycle, and means nothing more than an ordinary puncture, usually entails unlimited mischief to a tire on a motor bicycle. The weight of the latter too often drives the nail not merely through the tread side of the tire, but clear through the rim side as well; not infrequently the rim itself suffers.

It is this proneness to "double puncture" that has created the issue of which we speak. Such damage practically puts a single tube tire out of commission; certainly it is outside the realm of roadside repair. With a double tube such a repair is easily possible, and is turning the balance in favor of the detachable tire. Another argument that is brought to bear against the single tube is that the weight of motor bicycles has a tendency to displace plugs that may have been inserted in punctures. On the other hand, neither weight nor jarring or jolting can affect a patch on an inner tube; once in place, it is there "for keeps."

It is well that the makers of single tubes should know these things. The tire question is a live one with motor bicyclists, and if the single tube is to obtain or retain its share of favor, treads and plugs must be given attention and undergo alteration.

Delays Always Expensive.

Many a dealer allowed last year to roll by without making the least effort to familiarize himself with the conditions that are going to confront him hard and fast from now on because of the motor bicycle. He has taken an illogical position, and any troubles that he imagines he has escaped will be small in comparison with those he himself is creating by dodging the issue. His cowardice of the present will turn into a business tragedy in the future.

The silliest of the lot are those who, when catechised in the matter, put up the lame defence that they do not want to be bothered with the trouble of learning to operate and care for them. They generally gloss the point by putting it in another way; that is, throwing the blame on the machine, but the exact position is as we put it, they are too indifferent, not to say incompetent, and won't exert themselves to learn. How some of them ever learned to make repairs on motorless bicycles and on tires is a mystery.

We can remember the time when brazing was not only an art possessed of but by few, but when these few held their knowledge to themselves as a kind of esoteric mystery. Did the dealers of those days allow themselves to be kept in the dark, and when they did find the process and saw that it demanded considerable practice and experimentation before it could be successfully applied, throw up their hands after the first few failures? By no means. They continued to waste spelter and borax and to sweat and to try until what had at one time seemed beyond them came to be as simple as cementing on a tire.

Then came the pneumatic tire, and what a slaughtering of time and patience there was when repairs were first attempted. Many a man stayed up until midnight working over a job that he can now do in ten minutes, because he would not give up and because he did not want his customer to know there was the slightest difficulty in the affair. For this class of dealers it should be said that they are the ones who have taken up the motor bicycle and who are reaping an immediate harvest from it as they did from their earlier foresight.

If evidence could be collected it would be found that these same men are those who do a large business in coaster brakes and in cushion and spring frames. The other class is made up of those who merely tag along, wait business, even of the most general kind, and work under the motto, "Wait for improvements." They should take the plunge, purchase a motor bicycle and participate in the unlimited pleasure obtainable from being able to follow discussion and development. The role of onlooker soon proves to be flat, stale and unprofitable.

Weights, Up and Down.

It was difficult years ago, when the craze for featherweights had almost spent its force, to realize that weight reductions could not go on forever. The wisest heads in and out of the trade perceived the truth and shaped their courses accordingly. The move-

ment had been carried to an excess, and soon there came the inevitable reaction. But matters did not stop there. Weights kept increasing, and not for several years was a halt called.

At the present time some people are unable to understand why weights cannot be put down to the old figures again. If twenty pound machines were possible nearly a decade ago, in the then crude state of the art, why cannot we turn out machines no heavier but much better? they ask.

A brief mention of the chief constructional changes that have taken place since then, each of them meaning added weight, will make it plain why this cannot be:

(1) High frames and extended wheel base, necessitating larger tubing and larger connections.

(2) Larger sprocket wheels and longer chains.

(3) Longer cranks and higher gearing, with a proportionate strengthening of parts to resist the greater driving strains.

(4) The introduction of the coaster-brake.

(5) The very general substitution of a full roadster, suitable for all classes of riders and all roads, for the light, medium and heavy weights formerly used.

(6) The increasing use of machines differing from the regulation patterns—such as chainless, cushion frames, etc.

All of these changes and additions mean added weight. The addition may be measured in ounces instead of pounds, but in the end they aggregate pounds, and pounds, like facts, are stubborn things, not easily done away with.

That the average rider is content with things as they are, however, is scarcely to be doubted. If he were not he would protest, call for something different, something lighter, and not cease until he got it.

In addition to the usual statistics, the Census bulletin dealing with bicycles includes an intelligently written historical review of the industry since the inception of the "bicycle idea." This review rates ball bearings as a feature "more to be admired, perhaps, than any other part of the machine," and then falls into the grievous and almost unpardonable error of crediting the invention of such bearings to "Bonn, an Englishman." As a matter of fact, the credit is due J. H. Hughes, whose patent bears date September 19, 1877. Bown (not Bonn) purchased the patent, and marketed under the title "Bown's Aeolus ball bearings." Hughes remained unhonored and unsung.

Orients Win Everywhere.



MERIT WILL TELL.



First, Second ^{and} Third Place in the Great Irvington-Milburn Road Race.

Wyckoff, on an Orient Motor Bicycle, wins the 10-mile motor race.

The Orient Motor Bicycle also wins first place in the great motor races at Bexhill, London, England.

At Staten Island Speed Contest the Orient 3-H. P. Motor Bicycle makes a straightaway mile in 1:10 2-5.

SUCH RECORDS AS THESE NEED NO COMMENT.

WALTHAM MFG. COMPANY, WALTHAM, MASS.

Reasons why the "BUFFALO MOTOR CAR" is so Popular.

"BUFFALO TONNEAU"

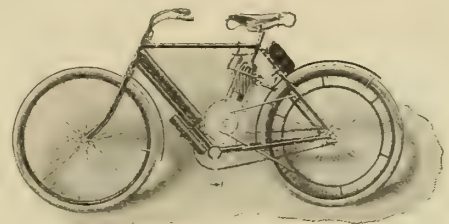


Model 15. Price, \$900.
" 7. " 800.

LONG WHEEL BASE.
EASY RIDING.
6 Brake H. P. Motor.
SURPLUS POWER.
LARGE LUGGAGE BOX.
Convenient for Touring.
LARGE TANKS.
Insuring Long Distance.
AN EXCELLENT HILL CLIMBER.

"AUTO-BI"

THE STANDARD MOTOR CYCLE.



Model 4. Price, \$175.
" 3. " 150.

INCLUDES ALL FEATURES USUALLY FOUND ON \$2000 CARS.

TONNEAU EASILY DETACHED.

We use celebrated E. R. THOMAS WORLD'S RECORD MOTORS; they excel.

BUFFALO AUTOMOBILE & AUTO-BI COMPANY, 1200 Niagara Street, **BUFFALO, N. Y.**
LONG DISTANCE 'PHONE, Bryant 1370.

ADDRESS ALL CORRESPONDENCE TO BUFFALO.

MOTOR BICYCLE TRIALS

Faults for Which Makers are Responsible and Corrections That are Possible.

"It has been our lot recently to test a considerable number of motor bicycles, and though we have a great liking for this type of vehicle, the trials have often been more properly applicable to ourselves than to the machines," says the Motor Car World. "The bicycle work has sometimes been little short of disgraceful. The racing position has often been difficult to account for on the pedal propelled machine, but when a motor bicycle gives one no chance but a laid-out position it does not conduce to a good impression of that particular make. Not only are the handles set absurdly far forward, but they are by no means always properly secured. On two different machines in one day one of the handles came right off the bar in our hands, and in one case very nearly caused a bad spill. One of these machines had a roller clutch which slipped horribly, and a broken front mud guard which chattered with a fearful din when traversing rough ground.

"The carburetters, too, have been frequently unsatisfactory. What can possess firms who have had long experience with a surface carburetter to put new-fangled articles, which puzzle even experts to produce explosions with, on their machines, is difficult to imagine. It is too early to hope for standardization in motor bicycles, but it would be a good thing if the different manufacturers could agree among themselves as to which should be the switch handle, and also as to which way it should turn to break the circuit. It is somewhat disconcerting when a movement intended to slow down the machine has precisely the opposite effect, or none at all.

"In many machines a needle valve is provided for supplying the carburetter from the reservoir, but as a rule the needle valve

leaks, and equally as a rule the emptying of the carburetter is most unsatisfactorily provided for. In one machine we tried the waste tap was so small that it would not let the petrol off as fast as it leaked through the needle valve. In another the waste aperture was of ample dimensions and was stopped by a screw plug, the withdrawal of which swamped the rider's hand and the neighborhood generally. Some machines have no waste aperture in the crank case. How one is to dispose of spent oil is a mystery.

"Occasionally an exhaust valve lifter is provided instead of a compression tap, the latter being entirely dispensed with, so that the rider has no opportunity of injecting paraffine or petrol to free the piston rings. One machine was brought to us a distance of about twenty miles absolutely devoid of an inflator, and with no tools whatever.

"Of course, at this stage one cannot expect perfection in this type of vehicle; but what we grumble at are sins against experience, not want of development. Who are likely to benefit by a statement one comes across in some motor bicycle catalogues that if 'anything goes wrong with the motor the belt may be detached and the machine propelled like an ordinary bicycle'? If the maker's ordinary bicycles run like that, we are sorry for the riders of them."

While some of the above causes for complaint are peculiar to English motor bicycles and could not be applied to those in this country by even the most captious critic, there are others which hold true of some American makes.

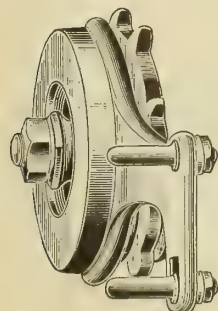
Take the matter of the handle bar as an example. A Bicycling World man recently had delivered to him for a somewhat extended trial a well known make of machine. For its general running qualities and some details that other makers have overlooked nothing too praiseworthy can be said; but it was noticed that the first few rides ended with tired arms and shoulders. On about the third trial the real cause came to mind, the handle bars were so short that it was

necessary to lean well forward or else keep on the peak of the saddle.

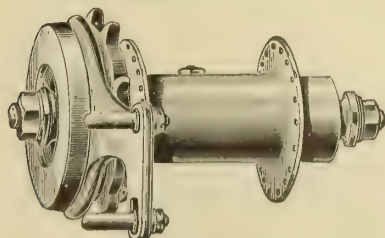
The point brought out in the matter of standardizing the switch grip is also a good one. As at present built one maker may use a left hand screw while perhaps the very next uses a right hand thread. It is not enough to say that the buyer of the machine soon learns which way to turn his grip, and that the matter is thus settled. As a matter of fact, when a group of motor bicycle owners get together they do just as was done in the early days of the motoless bicycle. The different members of the group try one another's machines, and it is most certainly "somewhat disconcerting" to put the grip on all the harder instead of freeing it when occasion arises calling for a quick stop. And it is frequently just such little matters that make against a good impression and stop an after praise.

The question of leaving off the compression tap, just because an exhaust valve lifter has been provided, is also one worthy of more than passing thought. In the century run held on Long Island last Sunday this very construction caused one rider delay and annoyance. In some way the relief valve in the crank case was lost, and the notice to the rider that this had occurred came when his piston refused to move in the cylinder because all the lubricating oil had been blown out of the case by the base compression. It was a simple matter to make a wooden plug to fill the hole in the crank case, but the only way to relieve the piston was to take the spark plug out, lay the machine on its side and then inject the oil. Had there been a convenient compression tap, time would have been saved as well as a few words against the "fool" maker.

The true tandem expert early learns the necessity for coaxing his machine. Brute strength or sudden applications of power count for little. Well directed effort does the business. So well is this understood that an experienced rider will tell you that he would rather push a tandem alone than be helped (?) by a mate who balked his efforts by his ill-concerted action.



DETACHABLE



UNIVERSAL.

PATENTED

June 12, Aug. 14, Dec. 25, 1900.
Feb. 19, Mar. 26, April 1, 1901.

Wyoma Universal

COASTER, BRAKE AND HUB COMBINED.
WILL FIT ANY BICYCLE. READY TO INSERT IN WHEEL BY LACING IN SPOKES.

Wyoma Detachable

MADE TO FIT THE LEADING STANDARD HUBS.
BOTH MODELS WILL ALLOW REAR WHEEL TO

RUN BACKWARDS.

FIVE PIECES, SHOWING CONSTRUCTION OF 1902 MODELS.

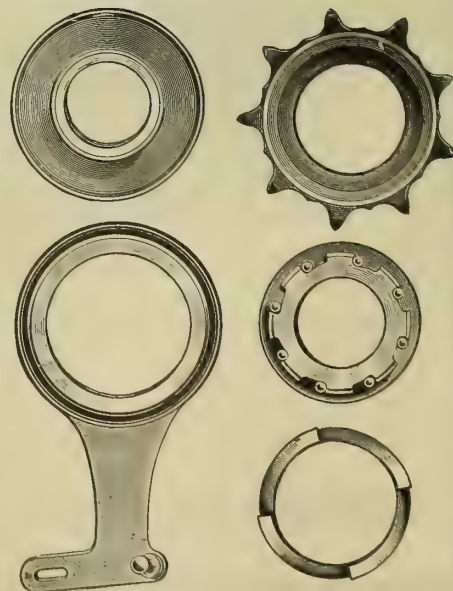
NO FIBRES.

NO BALLS.

FULLY GUARANTEED.

MANUFACTURED BY

Reading Automobile and Gear Company,
TENTH AND EXETER STS., READING, PA.



VALUE OF TRIAL RIDES

How one Spring Frame Sold Fourteen Others—First one Bought Unwillingly.

J. H. Sager, of Rochester, N. Y., was in New York late last week on one of his periodical visits.

Asked how his decision, made early in the year, to sell neither cheap wheels nor cheap tires had panned out, Sager declared himself as well satisfied. He had replaced but one tire, while last season, in order to retain his customers' good will and patronage, he had replaced practically every cheap tire he had sold. He had not sold as many bicycles as last year, due partly to Rochester's having been flooded with cheap wheels, but despite the fact he has made more money.

That Sager is full of his Regas spring frame goes without saying. Speaking of its qualities as a seller, he narrated how one sale at retail had directly resulted in the sales of fourteen other bicycles.

"When I first tried to interest the gentleman," he said, "he waved me aside. He had purchased a new bicycle last fall, and declared that he had neither money nor inclination to make a change. He told me there was absolutely no use in trying to sell him a bicycle of any sort.

"Then, simply as a favor to me, try this one with my Regas spring frame, and tell me what you think of it," I suggested," went on Sager. "I placed the bicycle at his disposal, and when he returned an hour or so later he was all smiles and was interested enough to ask its price. The very next day he had a chance to sell his rigid frame, and he sold it and placed his order for a Regas. His wife was then not satisfied until she tried one; a trial brought her order, and in turn other trials resulted in my selling exactly fourteen other spring frames to the immediate relatives and acquaintances of the man who only the other day laughingly told me that if any one had told him three months ago that he would this year pay out money for a new bicycle he would have considered him an idiot."

His Awakening Will Come.

He was one of the economical kind, always on the lookout for bargains. A roll of tire tape was what he wanted, and the big department store had hundreds of them spread out before him, all sorts and prices. One compartment was filled with the "cent a roll" kind, and this he chose, after some inward debate, passing by the better article which cost a few cents more. Curiosity led the writer to examine, surreptitiously, one of these rolls. It was as might have been expected—tape without "stickum." If any rubber solution has ever been spread on it, it had long since dried out. It is easy to foresee the result when that rider comes to use his tape.

Kansans' July 4th Idea.

Even from this distance it is plain that Schollenberger Bros., Wichita, Kas., are above the dead level, for which the term "average agent" stands. They have repeatedly supplied evidence of the fact that brains are brought to bear in their business.

Their newest plan for awakening cycling interest, and incidentally advertising themselves, is ingenious enough and original enough to be imitated. On July 4 they will send up three fire balloons, each carrying a numbered metal card, No. 1 calling for a Mitchell bicycle, No. 2 for a Morrow coaster brake, and No. 3 being a blank. When the balloons are consumed the cards, of course, will fall to earth, and the finders of the lucky ones receive the prizes for which they call. Messrs. Schollenberger say the scheme has aroused great interest in Wichita, and is probably the best advertisement they have ever had. Practically every boy in town, and many who are not boys, intend to chase the balloons.



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

New Postal Cards Coming.

A new one cent postal card is now being printed at the Bureau of Engraving and Printing, and when the first issue of 4,000,000 has been counted and bundled the new card will be placed on sale. The distinctive feature of the new card is that it contains a vignette of President McKinley, in lieu of President Jefferson's portrait. The issue of the Jefferson card will be discontinued.

The Spread of Motorcycle Interest.

The growth of interest in motorcycles is well exemplified by the growth of the two motorcycle clubs in this vicinity. Although organized but four months since, the Alpha, of Brooklyn, has a bona fide membership of 47, all save three of the number being owners of machines. Twelve members were elected at the June meeting. The six weeks old New York Motor Cycle Club (which has thus changed its name from the Motor Cycle Club of New York) has 22 members and almost as many more in prospect.

AGAINST POWERFUL MOTORS

Walthour and Others Cracks Make a Stand —Race Promoters Also Concerned.

A meeting of the N. C. A. board of control, track owners, racing men and their managers was held in Boston on Tuesday to discuss the question of motor tandem pacing machines. Many of the riders have agreed not to race behind a tandem fitted with more than a 4 horse power motor, and to refuse to meet any man who has a more powerful motor. On the other hand, the managers of others refuse to discontinue the use of their big machines.

In the discussion Chairman Batchelder said it was not within the jurisdiction of the N. C. A. to say no man should use large power motors, and that the riders must settle the matter between themselves. Resting his case at this point, the chairman left the meeting.

An agreement was then drawn up and signed by F. L. Howe for Elkes, Eli Wine-sett for Walthour, F. Ed Spooner for Nelson and Munroe, L. H. Elmer for Harry Caldwell, W. F. Saunders for Hugh McLean, Watson Coleman for James F. Moran, and S. D. Burrows for Nat Butler, as follows:

"On the part of the race promoters: To book no races at our tracks except where the contestants use not more than 4 horse power motors.

"On the part of the Managers: To ride our men in no races in which larger than 4 horse power motors are used.

"On the part of the riders: To ride in no races against riders using larger than 4 horse power motors."

It is expected that James F. Ingraham, of the Revere track, and that Worcester, Springfield and Hartford will sign with the strikers. New England will then be practically covered, as this only leaves the Providence track on the outside in that section. With P. O. Sheehan, of Providence, and the Kennedy-Powers combination of the Manhattan Beach tracks barred by the signed agreement, it is only a question of which side will hold out the longer.

What Worries Bath.

Bicycle riders of Bath, Me., are up in arms. It seems that they are taxed at a flat valuation of \$40 per bicycle, no matter what was paid for it nor how old it may be. The point made is that workmen using their bicycles to go to and from their work are obliged to pay a tax, while owners of the numerous and costly gasoline launches that are on the river are not taxed one penny.

Hansen Will try Again.

A. A. Hansen, the Minneapolis dealer whose effort to set up a 1,000 mile road record on a Mitchell motor bicycle was cut short by a dog, has not abandoned the idea. He probably will make another attempt during the moonlit nights of July.

CAUSED BY CARELESSNESS

Motocycle Troubles That Forethought Would Have Avoided—Hint to Makers.

There recently came to the knowledge of a Bicycling World representative two instances of motocycle troubles caused by sheer carelessness. In both cases all the parties involved were thoroughly competent motocycle users, so that no great length of time was lost. This very ability, however, made the thing in each instance all the more aggravating because of that ability and because of the really simple cause. The troubles occurred on runs of two motocycle clubs and on the same day.

The need of gasoline en route was the genesis. It seems that some of the members of one of the clubs arrived late at the start, and in the desire not to keep the others waiting any longer they started off without filling their tanks at the club headquarters, as each had planned to do. At the first stop along the way the needed gasoline was purchased and poured in. The purchase was made at a small country store, and the measure used, according to after results, would indicate that its previous requisition had been in the service of blackstrap molasses, the residue of which had collected dust, small splinters and flies.

Here shows the carelessness of those who bought. In place of examining the goods on delivery and, more than all, straining the gasoline as it ran from the measure to the tank, it was just put in regardless. Of course, in less than the time it takes to tell, after starting up, these same riders were looking for the causes for non-running. It didn't take long to find them, at the feed cock between the tank and the carburetter. Cleaning things out afforded time to express views as to country storekeepers and as to one's own stupidity.

The instance also proved that manufacturers could improve matters by making the tanks with a removable screen placed below the mouth of the filling hole. The screen would prevent troubles of this kind, and if removable it could be readily cleaned when necessary.

The second instance had its beginning from the same lack of gasoline at the start. There was only one, however, and he was waited for while scouring around for a supply. In the hurry coming from the desire not to keep his clubmates waiting came the carelessness, and the liquid purchased was hurriedly put in the tank, the cap screwed on and a start made.

It was a false start, or, rather, there was no start from the motor, the pedals doing the work. The owner of the machine had ridden up to the starting point, and knew his machine was all right. His general ability and experience told him that the first thing to do was to examine the only alteration that had been made in conditions. This,

of course, meant inspecting the liquid purchased. It had been bought in a paint store, and in about three minutes it was found that the clerk had made a mistake and filled his measure from the turpentine barrel. He willingly filled the tank of the bicycle, which in the mean time had been emptied, with guaranteed gasoline this time.

These two experiences call to mind a thing that might only cause occasional trouble where spray carburetters are used. But with carburetters of the surface type, such as have been usually used on tricycles, there would be nothing but trouble. This would be the fatal effects of even one drop of lubricating oil in the carburetter. The effect of this drop would be to spread as a thin film on the top of the gasoline, thus preventing rising of enough vapor. As the air is sucked through it could only draw vapor off wherever the film had not reached. The obvious consequences would be bad running that could only be corrected by letting out, as waste, the gasoline.

The Paying of Bills.

The paying of bills varies quite as much as the amounts. Some send the money before they get the goods, some ask us to send C. O. D. Some pay as soon as they receive the goods, others pay at the time agreed upon—or go over. When they do go over there is no certainty where they will go unless checked up. If you put on the brakes, as it were, and bring them up too suddenly, there is friction that even flake graphite won't overcome, and they get mad and say things, says Graphite.

Then there is the financial man who goes away and does not provide for the payment of bills while away; he seems to overlook the fact that some other poor devil needs a vacation and is waiting for the wherewithal to come in.

There is the man who pays no attention at all to statements, letters or drafts. By and by we get provoked, especially during the heated term, and say things that we wouldn't otherwise. But the things said seem to have no effect and the account goes to our lawyer. In due time the lawyer sends us the much-wished-for and much overdue check and charges us ten per cent for collection, or the lawyer writes that the debtor has mailed check, and behold! a check comes in same mail from the man and with it a letter wondering why we should have put the matter in a lawyer's hands. Considering that we had sent the man several statements and drawn on him at least twice and written that unless we heard from him we would be compelled to send the long overdue account to our lawyer, it seems a little curious what the man could have expected.

Alpha's Non-Stop Contest.

The Alpha Motor Cycle Club, of Brooklyn, has the promotion of a non-stop run in view. It probably will be held on a track in this vicinity, and the distance will be either 100 or 200 miles.

TO REACH THE TOP

Some of the Essentials Necessary in the Upward Climb—The Men in Demand.

What are you working for, brother? What is it that fires your endeavor and brings forth your very best effort?

The hope of a larger salary?—You can get it if you care enough for it. To be known as one of the strong men of the house?—That is easily attainable. To become one of its members and to have a voice in its councils?—This can be accomplished. To finally become the head of a business of your own?—That, too, is possible.

But oh, brother! you must deserve to succeed and must work unceasingly to attain your end. The higher your aim the greater consecration and concentration you must bring to your daily task, and at every step of the way you must show results. There is no lack of opportunity for you to succeed in anything which you attempt, and you are as sure to win if you are worthy of it as water is to find its level.

There never was a time when men who could do things were more eagerly sought. It is the age of great enterprises, rapid growth and development and of applying new methods to old matters. There is almost no limit to what may be achieved by a brainy man, able to think along original lines and to solve the problems of to-day in the light of to-day's possibilities; but he must cast off non-essentials and devote himself to his aim with a singleness of purpose that will fit him a little better each day for the place he means to occupy.

There is no such thing as holding a good man down, and no one wants to do it. The weeds in a garden are the only things in it that have no show. Every big house has room at the top for every good man who can climb there. What if all the chairs in the private offices are filled? The furniture factories will match any style made, and it is easier, quicker and far pleasanter to make a new place than to wait for an old one. The men whose names are the inspiration for the youngsters to-day carved out their own niches in America's hall of fame, and it will ever be so.

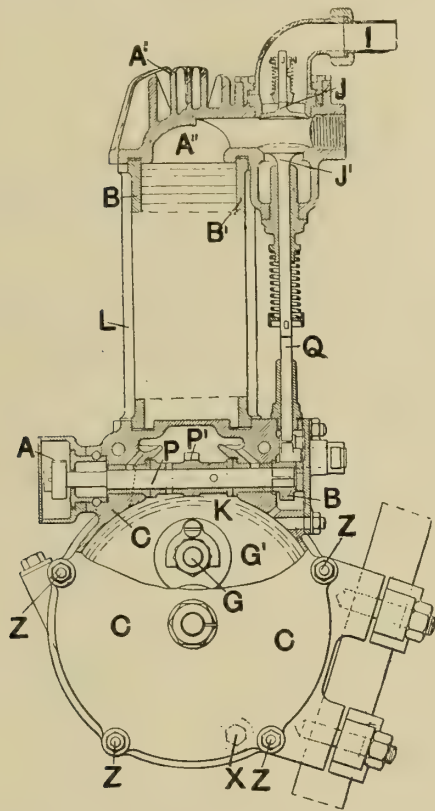
Study the times, and apply its lessons to your work. Cover every possible chance for improvement and you will be surprised to find how the way opens to larger things. Don't confine your thought entirely to the petty details of your work, or you will lose the capacity for larger things. Train yourself for work of large proportions, and it will come to you, often before you are fairly fitted for it.

It is only in poems and the vaporings of those who have been found wanting that true worth blushes unseen and wastes its sweetness. A real estate deed covers everything as far below the surface and as high above it as the owner can go, and no one has the right to trespass. Does the title to manhood do less? asks Corbin's Man in the Corner.

DE DION DEPARTURES

Famous Frenchmen Evolve Radical Alterations in Bicycle Motors—What They are.

From the first announcement that De Dion and Bouton were about to turn out a bicycle motor there has been a natural interest to learn of its details. In the first reports given out the thing of particular interest was the statement that it would be ball bearing. This caused considerable discussion among those interested, the prevailing opinion being that balls at the crank shaft would pit the carrying cases because of the pound from the explosions.



It develops from the illustrations at hand that these makers have not departed from the usual plain crank shaft bearing. The only indication of balls is on the cam shaft, and the illustration does not clarify this surmise, as their position hardly seems to be at the best point if a thrust bearing was the purpose aimed at.

There is a radical departure from present construction, however, which is interesting enough to make up for all else. This is in the arrangement of the half speed shaft, which revolves at right angles to the crank shaft. This cam shaft is driven through a spiral gearing, the two threads of the driving gear being cut in the periphery of the left hand flywheel. These threads mesh with a worm wheel, pinned to the half time shaft, which is of such a pitch that the necessary half speed is obtained. This arrangement ought to make for silent running

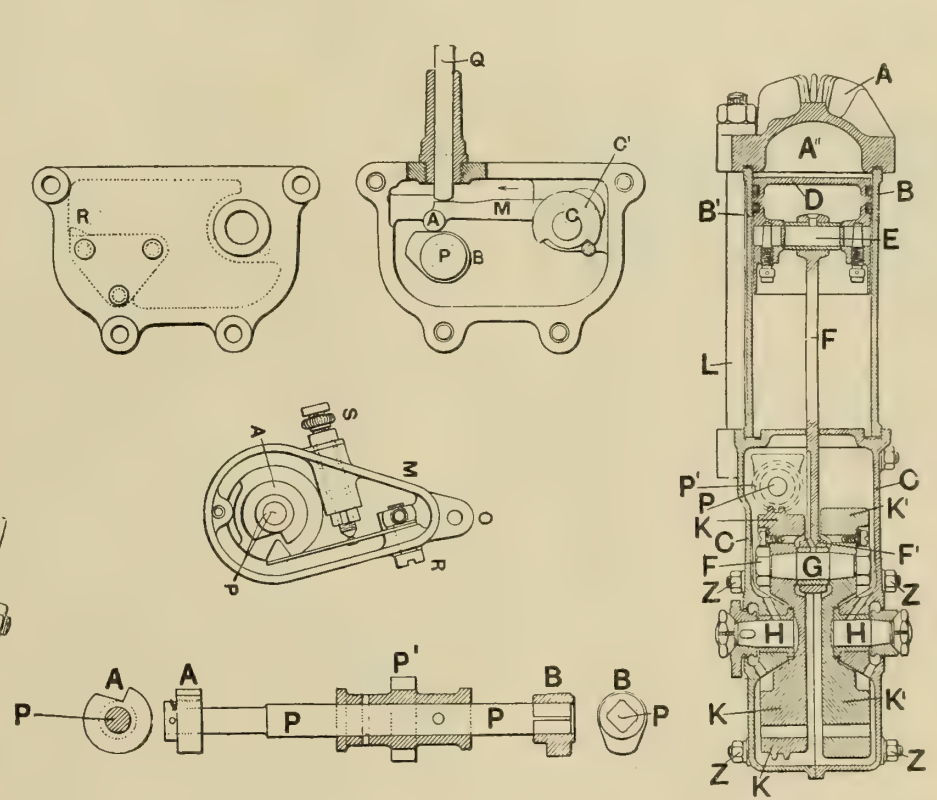
and save the pounding noise that is so noticeable in some small motors.

The cam shaft runs in the upper part of the crank case, and the trembler and exhaust valve mechanism fastened to this shaft are removed from the sides of the crank case, diminishing the width of the latter.

The cylinder is a plain tube, without cooling ribs. Only the cylinder head—the combustion chamber—is provided with ribs. The cylinder tube is clamped between the head and the crank case, which are drawn together by two studs and nuts.

The induction and exhaust valves are placed one above the other, with the sparking plug between. The induction valve sleeve and the flanged end of the belled induction pipe are secured in position by the gland nut, and this method of fixing allows

and G.) The cylinder has a bore of 2.44 inches, and the piston a travel of 2.75 inches. The engine runs normally at from 1,500 to 2,500 revolutions, giving 1¼ horsepower, but its speed can be reduced to 400 and advanced to 4,000 revolutions per minute. The length of the engine over all is 14.74 inches and the width 3.93 inches. The weight of the engine is 22 pounds, which is not altogether on the light side, as the designers have preferred to keep plenty of material in the crank disks. The careful provision made for attention to the careful provision made for the lubrication of all wearing parts, the method by which the nuts of the crank pin are locked, and the generous length of the crank shaft bearings are other features that make for improvement.



the induction pipe to be placed in any desired position for connection with the carburetter. The exhaust valve stem is actuated through the lever M, Fig. 4, which is pivoted at C1, the spindle of the lever being carried eccentrically on the notched disk C, which is capable of partial rotation from without. Fig. 4 shows the exhaust lever M in position for opening the exhaust valve to its fullest extent, but it will be seen that when the notched disk C is rotated the lever M is moved to the left in the direction of the arrow shown in Fig. 4, with the result that the closing of the valve is more and more prevented, until when the roller A on the lever M has run as far up the little inclined plane R, Fig. 5, as the left hand notch on the disk C, Fig. 4, will allow, the valve is held right open.

At the forward end of the half time shaft P is found the commutator. (See Figs. 2, 3

Where Cycle Interest is Awakening.

The Acting British Vice-Consul at Van, in Asiatic Turkey, reports that there would seem to be an opening for bicycles, as the conditions are particularly favorable. Several bicycles have recently been introduced by private individuals, and one or two merchants have made inquiries with a view to importing some as a speculation. The machines, so long as they are strong and moderate in price, need not be of the very latest pattern.

According to the Italian Consul at Tientsin, "enterprising manufacturers of bicycles could easily establish a large business in China, and especially at Tientsin, since that city is surrounded by several small villages, which at present lack the proper facilities for communicating with each other. Bicycles are now only sold in Tientsin by two Chinese dealers, and as a result a large price is paid for them."

RACING

Six thousand spectators saw the professional and amateur stars shine with unusual brilliancy at Vailsburg on June 22. In the one mile professional Kramer showed a remarkable sprint, which landed him first across the tape. Hurley, who is as much in a class by himself in the amateur ranks as Kramer was when he was amateur champion, smashed another record in covering the half mile in 57.3-5 seconds. The best previous time was 58 seconds, made by himself. The race, a half mile handicap, was divided into five heats, with two to qualify. Hurley and Billington were on scratch. It was a sprint from the start, Hurley gradually overhauling the field. Billington led by two lengths up the stretch, but Hurley was closing up the daylight with every move, and then, as the finishing line was reached, both went over the tape on terms that could hardly be distinguished. Hurley was given the race, Billington second, Glasson (15 yards) third, Penn (80 yards) fourth.

In the one mile professional there were four heats and a final. It was so arranged that twelve would line up for the final, and of this number six agreed to team it—Hadfield and Collett, Fisher and Kimble, and Fenn and Leander. When the eighth pole was reached for the last time Kramer was in sixth place. From this on, however, it was a fight for the finish, Kramer gradually working his way to the front, and finishing inches only ahead of Bedell. Fenn was close up, third, and Fisher only half a wheel back. Collett got fifth. Time, 2:10. In the consolation race, two miles, rolling start, for amateurs who had not won a prize at Vailsburg this year, E. Stander, of Rochester, won in 4:29 2-5, beating Hurley's record of 4:31 2-5, made on the 1st inst.

Owing to the inability of the scratch men to overhaul the front markers, the finish of the five mile professional handicap lacked interest. With Kramer and Fenn, Collett and Hadfield, Schreiber and Alexander teaming it, the prospects of catching the limit men seemed bright, but the front markers worked together and had the race won before four miles had been completed. The back markers sat up on the eighteenth lap and left the finish to the limit. Bedell (300 yards) was the winner, Carni (300 yards) second, Coburn (300 yards) third, King (300 yards) fourth, Krebs (300 yards) fifth. Time, 10:19 2-5.

According to advices received by N. C. A. officials in this city, Iver Lawson is due here this week on the steamer Columbia. Quite unexpectedly, the same boat is bringing over that remarkable evergreen William Martin, better known as "Plugger Bill," who has practically settled in Melbourne, and F. S. Beauchamp, an Australian rider. All three will follow the national circuit of championship contests, which will begin early in July. Martin was known to have left the antipodes for a European racing tour, but his

coming here is in the nature of a surprise.

Lawson's venture abroad was an indifferent success. One of his last races was in the world's championships at Rome, in which he easily won his trial heat in the 1,000 metre race, ran second in a semi-final and was a close third in the final. Ellegard, a Dane, won, and Meyers, a Dutchman, was second. In the tandem race Ellegard and Lawson doubled up and won.

In a ten mile motor paced race at Baltimore on June 23 between Gus Lawson and King the former won the first heat by ten feet in 15:48 3-5. In the second heat Lawson started off with a spurt and took the lead; on the second lap his tire exploded, and he was thrown heavily, sustaining painful but not serious injuries. His hurts, however, terminated the contest. Fisher and Zimmerman won a five mile motor tandem race from Thompson and Boake in 7:29 4-5.

In a race of three heats and a final at Leipzig on June 9 between Taylor, Rutt and Arend, Rutt won the first heat at 1,000 metres, Taylor the second at 1,600 metres and Arend the third of 2,000 metres. Taylor easily won the final. At the Paris Velodrome track on June 14 Taylor was defeated in the semi-finals by the Englishman Jenkins after winning one of the preliminary heats. The final was won by Heller, Jenkins second and Bourrotte third. The distance was 1,000 metres.

The New York Division of the Century Road Club apparently has no scruples about conducting road races on the Sabbath. On Sunday last on the Valley Stream (Long Island) course they held a fifty mile event, which was won by Fred Gebhardt (25m.), who beat out Charles Lundburg (25m.) by one second, in 2h: 30m. 30s. Best time, 2:25:15, was made by Charles Mock (scratch), who was one second ahead of his fellow scratch man, Ernest Gillott.

Collett won the ten mile professional race at New Haven on June 24 after a gruelling fight through a field of twenty riders. Rutz was second, Sullivan third and Beuell fourth. Time, 23:45. The one mile professional handicap was won by J. P. Jacobson from the 75 yard mark in 1:56; S. Williams (135 yards) second, Floyd Krebs (75 yards) third, Franz Krebs fourth. The two mile amateur fell to Reed Thompson, Carl Yentch second. Time, 4:11.

Because of a heavy downpour the Metro-pole Cycling Club's invitation race meet at Manhattan Beach, which was set for Saturday last, and which was expected to attract a record breaking attendance, was postponed until July 5. Last Saturday's invitations will, of course, hold good on the new date. The entry list has been reopened.

In the race for the "cycling championship of the world" at Berlin on June 23, 100 kilometres, Robl, of Munich, won; time, 1 hour

28 minutes 18 seconds. Bonhours, of Paris, was second, and Taylore, of Paris, third. Tom Linton, the English bicyclist, lost touch with his pacemaker several times and withdrew.

Monroe defeated Wilson in a ten mile heat race at Pittsburg on June 23 by literally running away from him in the last two heats. Wilson took the first heat in 14:43½ by half a lap. In the second heat Monroe finished two laps ahead, and in the third heat nine laps ahead. Time, respectively, 14:47¾ and 15:07 2-5.

Champion's winning streak went up in the air at the Revere track, Boston, on June 23. Elkes then and there took the ex-Frenchman's measure in an exciting twenty-five mile motor paced race, winning by half a lap in 37:09 1-5.

Motocycles in a Century Run.

The motorcycle century run scheduled to take place on Long Island last Saturday was postponed until the following day owing to the heavy rains. Eleven bicycles and one tricycle, built by its owner to carry his wife in a seat placed at the rear and over the axle, the frame work being extended for the purpose, were on hand at the start, which was made at 11 o'clock. A tardy entry left at 11:45, and all who took part were members of the Alpha club, of Brooklyn.

Pacemakers were provided that the rate of running could be kept at a pace that would not bring in any of the riders under the six hours minimum time for the entire course or the scheduled times for the various checking points. All went well for the first dozen miles, when the riders commenced to string out from one cause or another. The first stop on the part of any rider was to fix a belt, the man taking all the blame upon himself, as he had been too free in the use of his idler. Tire troubles made up the bulk of the delays with but few exceptions. One of these was a broken front wheel caused by a horse suddenly turning to the left and tramping on the wheel. The rider was thrown, and claims to have turned more somersaults than an acrobat. The sad accident of the run was the throwing of the woman from the rear seat of the tricycle and seriously injuring her. The undoubted primary cause was a high edge at the approaching side of a bridge. This toppled the rider sidewise in her seat.

Motor troubles were few, a broken porcelain in the spark plug and an intake valve going wrong making up the sum total. The fault in the intake valve was entirely due to poor designing, the cap holding the spring being held in place only by a plain wire pin. The trouble was augmented by the fact that the housing for the valve was not removable, so that it had to be tinkered with at a disadvantage.

All told, the run was of that successful order which made every one in it wish for more of them. And if the talk-over afterward is indicative, there will be a number of them this summer under the auspices of the two metropolitan motorcycle clubs.

RAIN POSTPONED BUT DID NOT IMPAIR THE METROPOLE CYCLING CLUB'S RACE MEET LAST SATURDAY.

IT WILL BE HELD

Saturday, July 5

AT

MANHATTAN BEACH TRACK

and everybody who is anybody will be there,
or should try to be there.

Invitations dated June 21
will be good July 5.

If you have none, get one now. Any dealer
in the metropolitan district who is wideawake
will be able to give you one.

Amateur Events.

ORIENT TRY-OUT FOR NOVICES, one-
quarter mile. First prize, Orient Bicycle.
COLUMBIA HANDICAP, two miles. First
prize, Columbia Motor Bicycle, \$175, and
Metropole Blue Ribbon.
YALE FIVE MILES. First prize, Yale racer with
Yale roadster to winner of greatest number of
laps.

Professional Events.

SEASIDE DASH, one-third mile. Purse \$100.
METROPOLE SWEEPSTAKES, five-mile handi-
cap. Purse \$200, with entry fees added. Met-
ropole Blue Ribbon to winner.
ATLANTIC INVITATION PACED RACE,
20 miles.

For information, address

S. W. MERRIHEW, Chairman,

124 Tribune Building,

NEW YORK CITY.

Free Wheels vs. Fixed Ones.

"After a practically unbroken record, ex-
tending over two years, of free wheel riding,
we have recently been mounted on sundry
fixed gear machines, and the experience has
been peculiar," says an observing writer.

"One fact has been patent—we were very
glad to get back again to our free wheel.
This reverting to the fixed gear for a short
period helped us, in no inconsiderable de-
gree, to realize the benefits which the handy
device in question has bestowed on the cy-
cling community.

"We have been making a series of week-
end spins, mounted on fixed wheels—a road-
ster with foot rests, a light roadster and a
speedy road racer. Taking the best of these,
i. e., that fitted with foot rests, the follow-
ing is our report: Upon an undulating trip
of some two hundred miles we found the
foot rests of use, but certainly felt the loss
of the customary style of free wheeling.
When the feet are on the pedals, free wheel-
ing style, one can sometimes give one or
two strokes and have another "coast," but
the "foot rest" man is at a distinct disad-
vantage here; and if he has to take his feet
off hardly thinks it worth while to coast the
rest of the decline.

"Opportunities for 'free wheeling' frequent-
ly occur, but not so often the lengthy 'coast,'
without which the 'fixed' rider is hardly
tempted to put up his feet. It is really sur-
prising the number of slight declines that
crop up on a ride where the free wheel
comes in so handy."

How Dealers Differ.

"If any one wants to learn how bicycle
agents differ he should undertake such a
task as mine," remarked Will R. Pitman,
who as a member of the committee has been
placing blocks of 100 or more invitations to
the Metropole Cycling Club's race meet with
the dealers of the metropolitan district.
"There are some so helpless and who so fail
to realize the opportunity that they listlessly
admit they would not know how to dispose
of even fifty invitations. Then there is the
other class, who in a twinkling realize the
good will and other benefits that will come
of mailing invitations with their compli-
ments to all their old customers, and to their
new ones and other folks whom they would
like to make customers. The difference be-
tween the two types of dealers is remark-
able."

Some Sound Rules for Salesmen.

While the man responsible for them labels
them "Some Chinese Business Rules," the
following will apply to many countries this
side of China:

"Be polite, whether the customer is a
prince or a beggar.

"One-third part of the clerk's conversation
to be assent and approval of what the cus-
tomer says.

"In doing business never let the conversa-
tion lapse. Should it pause, find at once a
new topic on which to revive the 'talkee,
talkee.'"

If
You Are
Interested
in
Automobiles

The MOTOR
WORLD Devoted to the
Automobile
& Kindred
Interests

WILL SURELY
INTEREST YOU.

It is published for the information
of the average mortal; no dic-
tionary of mechanical
terms is needed to
understand it.

PUBLISHED EVERY THURSDAY
AT 123-125 TRIBUNE BUILDING,
NEW YORK CITY.

\$2.00 PER YEAR.
10 CENTS PER COPY.

SAMPLE COPY ON APPLICATION.



The Success

— OF — THE SMITH TWO-ROLLER SPRING SEAT POST

has been phenomenal.

Jobbers, Dealers and Riders are a unit as to its merits.

Orders are the straws that show how the wind blows.

A profitable breeze to those who are handling it.

RETAILS FOR \$1.50.

JOS. N. SMITH & CO., - Detroit, Mich.

DEALERS.

WE CAN MAKE YOU IMMEDIATE SHIPMENTS IN

BICYCLES that retail at **\$15 to \$20**

If you are bothered in getting shipments from factories, write us for catalogues and samples.

PRICES RIGHT.

E. P. BLAKE CO., 57-59 Sudbury St., Boston, Mass.

From a Dealer who has the
Reputation of knowing
a good thing when
he sees it.

THE ROYAL MOTOR WORKS,
New York, N. Y.

FALL RIVER, MASS., June 4th, 1902.

DEAR SIR:—I have delayed reporting the result of my experience with the first Royal Motor Bicycle I received and sold in order to give it a good trial.

As you already know the machine was sold immediately and I had little opportunity to use it myself, but the owner invited me to give it a trial and I rode it about fifty miles. As a result of what little I rode it, and after one month's use by the owner continually, I have yet to know of a single time when anyone has had the least trouble to make it go, with one single exception, when one of the electric connections was broken. He has had some trifling troubles with his brake, but as far as I know there has never been the slightest trouble to find with the motor itself or its working, and I think that you have succeeded in constructing a very reliable motor.

Yours truly,

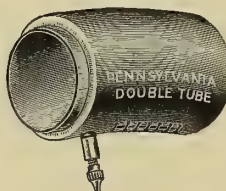
W. D. WILMOT.

Is there a Royal Agent in your town?

ROYAL MOTOR WORKS

29-33 West 42d Street,
NEW YORK.

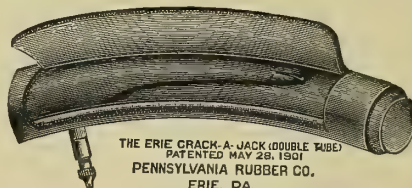
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK DOUBLE TUBE
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

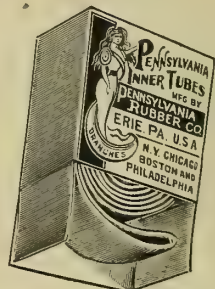
**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO

BOSTON
PHILADELPHIA



"MOTOCYCLES AND HOW TO MANAGE THEM"

REVISED EDITION

BOUND IN CLOTH

The only Book of the Sort in Existence

CONTAINS A MINE OF VALUABLE
INFORMATION

PRICE, ONE DOLLAR

THE GOODMAN COMPANY

123-125 Tribune Building, - New York City

CINCH

COASTS FREELY ON BEARINGS.

GROUND AFTER HARDENING.

Brakes Metal to Metal.

Drives Without Friction.

RIGGS-SPENCER CO., Manufacturers, Rochester, N. Y.

MOST INVENTIVE CITY

New Britain, Where Coaster-Brakes Come From, Holds the Honor and is Proud.

The United States leads the world in the ingenuity of its manufactures; that Connecticut leads the United States in this respect is everywhere conceded; that New Britain leads Connecticut is proven by the fact that more patents are granted to New Britain people than to residents of any other city in the Union, Washington excepted—ergo, New Britain leads the world in the ingenuity of its manufactures, says The Corbin, P. & F. Corbin's house organ, basing its remarks on the census report, which shows Connecticut to be the most inventive State and New Britain to be the most inventive city, 1,147 patents standing to the city's credit.

New Britain is a right little, tight little city, with thirty thousand souls, the fifth in size in the State and 155th in the country, compactly arranged two families deep (after the manner of Eastern cities) in one of the most beautiful valleys in Connecticut. Hartford, Berlin, Meriden, Southington, Plainville and Farmington surround it like the encircling stones about the central gem of a cluster, and extend their suburban lines to gain the benefit of a New Britain connection. Hartford stretches its fine residence district in this direction, and ornaments with triumphal arches, fountains and parks the little river that New Britain sends enriched through it to the historic Connecticut. Truly its neighbors appreciate their proximity to this city of locks.

One of the characteristics of New Britain is the absence of old people. Age does not seem to come with years in this region of perennial youth. Here there are many beautiful, young looking ladies with white hair, rosy cheeks, nimble wit and elastic step. Here business men with many years of service bring to their work all the energy of youth combined with the wisdom of long experience. Thus prosperity attends upon progress, and the flourishing little partnerships of a few decades ago become the great institutions of to-day.

Another of its characteristics is absence of ostentation. It is a city of solid comfort—

the comfort of days well filled with profitable endeavor, varied with reasonable enjoyment. Macadamized streets lined with well built houses set in velvety lawns, and shaded by gigantic elms, are everywhere met, but there are no mansions or untoward display. It is a city of workers. Every one has his daily task, and his energies are spent in making a good record among his fellows. There is no idle class with its influence for evil here.

The chief product of New Britain is brains. It is the place in which Elihu Burritt, the learned blacksmith, lived and did his work and taught the value of the passing moment. It is a place where the workman at the bench, the clerk in the office and store, and the young woman whose deft fingers wrap the goods in the factories devote their leisure hours to self-improvement. The factories upon which New Britain depends for its prosperity are the product of New Britain brains, and are managed by men who have spent most of their lives here.

It is a kindly city, where the newcomer is made to feel that he is at home and among friends; where the principal citizen is he who does the most good. Truly its people have reason to be proud of it, and each can exclaim with Saul of Tarsus, "I am a citizen of no mean city."

Elwell Organizes his Tour.

F. A. Elwell is now a full fledged motor bicyclist. Coincidentally, he has formally undertaken the European motorcycle tour which he suggested in the *Bicycling World* several months since. He has selected the most interesting portions of England and France as the route and set August 20 as the date of sailing from these shores. The party will be limited to twelve, and the rate per capita be made unusually low. Mr. Elwell, who has located for the summer in Waltham, Mass., where good motorcycle roads abound, also has in view a more extensive tour, to occur during 1903. In company with that other rare old veteran, E. H. Corson, now of Boston, Elwell will shortly make the trip from Boston on his motor bicycle.

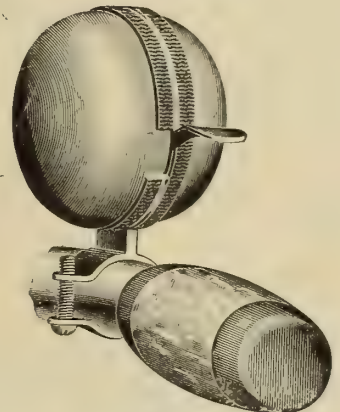
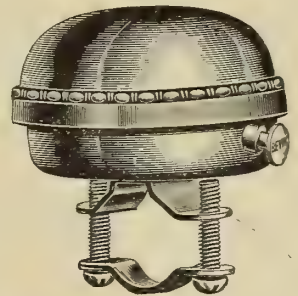
"The Motor: What It Is and How It Works." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

THE NAME

BEVIN

has come to be a synonym
for the

Best Bicycle Bells



And there is every reason why it should and no reason why it shouldn't be the case. Whose bells are you trying to sell?

BEVIN BROS. MFG. COMPANY

EAST HAMPTON, CONN.

FOUNDED 1832.

**The Only Tires Fit For
Motor Bicycles—
GOODYEAR
DETACHABLES**

GOODYEAR TIRE & RUBBER CO., AKRON, OHIO

OILERS.

"PERFECT"



25c.

"CEM"



5c.

"LEADER"



10c.

"CROWN"



5c.

"STAR"



10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs, 240-2 W. 23d St., N. Y.

Where Enthusiasm Abounds.

For genuine enthusiasm, unadulterated and of the kind that permeates everything it comes in contact with, commend us to the motorcycle rider of the present day.

It is impossible to contemplate him without having our thoughts go back to the days, so many years ago, when our first bicycle was still in use and we were never happy unless we bestrode it.

He is never so pleased as when he is busy with the motor-fitted machine. Next to riding it comes the joy of talking about it, either to fellow cranks or prospective ones;

The tire was no good, so I took mine off and put it on his wheel. Then I found the axle was too big to go in the slots of my fork, and had to file them out until it would fit. The whole thing took me nearly an hour, and I fell so far behind that I could not quite catch up to the other fellows."

All this was told without a thought of its being anything out of the ordinary. The only regret felt was that he had dropped behind!

As long as men pursue the sport with such avidity as this nothing but success can be in store for it.

The Retail Record.

Goldsboro, N. C.—A. H. Odom, opened store on John street.

Warehouse Point, Conn.—Adrian Emery succeeds C. A. Norris.

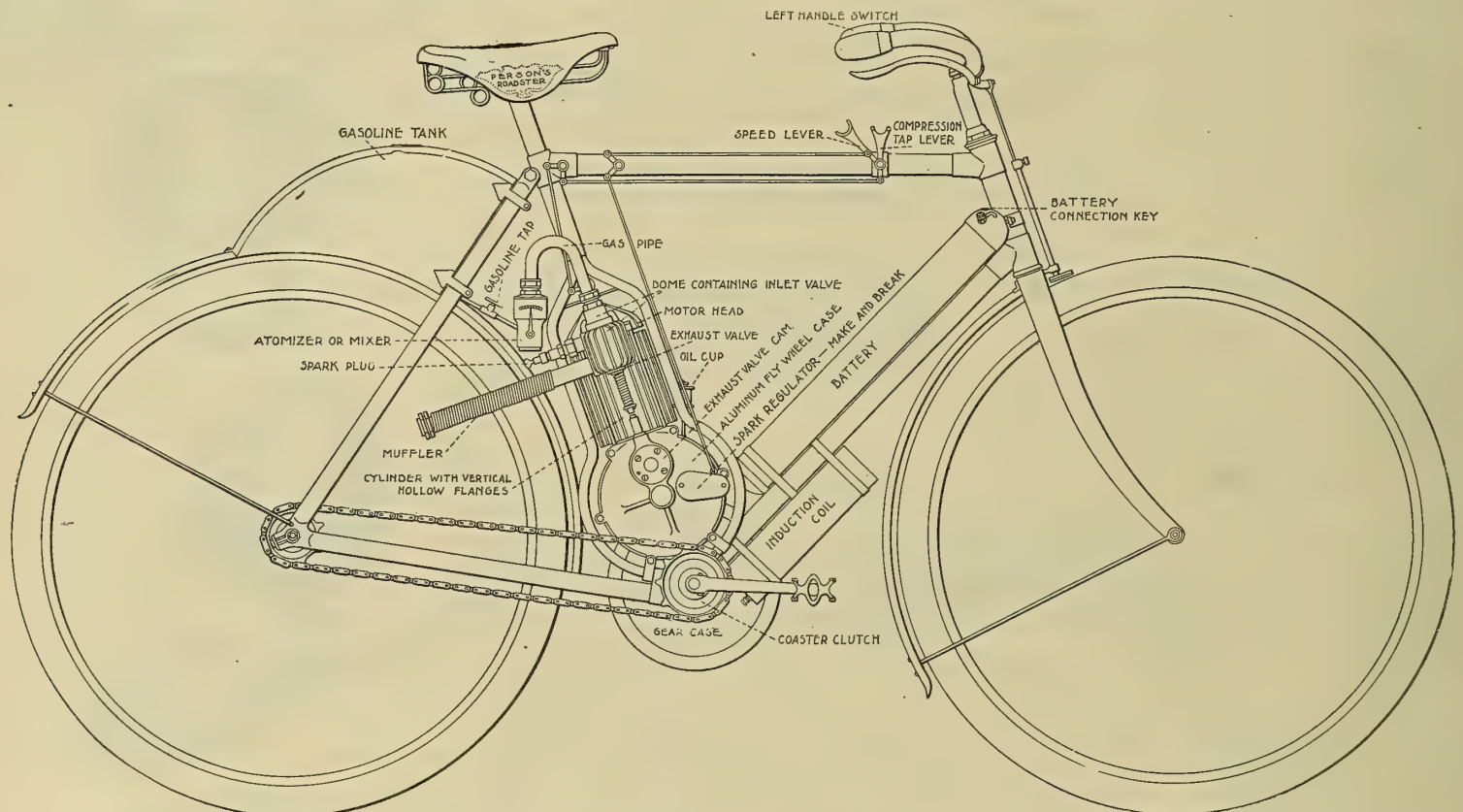
Somerville, Mass.—Wesley B. Churchill, closing out business.

Ottawa, Ill.—Max Schultz succeeds A. M. Smith.

Galveston, Tex.—E. H. Labadie, erecting new building at 2111 Market street.

Northampton, Mass.—C. A. Longeway, closing out business.

Livermore Falls, Me.—Roy Wendall opened store on Church street.



DETAILS OF THE ROYAL MOTOR BICYCLE.

while the ecstasy of tinkering with it, of putting to rights something that is wrong, or of trying to do so, is beyond all telling.

Mishaps do not phase him, nor accidents daunt him. He rises superior to such trivialities, and gets his pleasure out of what most people would deem misfortunes.

We came across one of the sort the other day. He was explaining why he had not finished his club century with the first bunch.

"A horse and wagon came out of a side road very suddenly," he said, "and in my endeavor to get by it I struck the wagon with my front wheel. It threw me off, but beyond a few bruises did not hurt me. My machine did not fare so well, however. The front wheel was smashed, and the crank was bent so badly that it would not revolve.

"I soon found a blacksmith shop, got the crank off, took the temper out of it and then straightened it and put it back. The blacksmith's son had an old, unused bicycle, and he loaned me the front wheel out of it.

How it Works.

Riders of the old high wheel will readily recall that sideslip gave them little uneasiness. It was not until the safety came in that it was heard of to any great extent, or became a much discussed question. Looking back at the matter now the theory put forth years ago and stoutly combatted in many quarters, that the higher the centre of gravity the less danger there was of sideslip, is probably the correct one. It can be put in a nutshell, thus:

"The higher the centre of gravity the easier the balance is, because the rider has more time in which to make the lateral movements. The action is in this particular similar to that of a pendulum—the longer the wire the slower the movement of the weight. The bicycle is like a pendulum, but inverted, and the higher the centre of gravity the slower the lateral movement of the weight; and hence, as stated, the more time the rider has to correct his variations from the true path. At the same time, when a fall does come a high centre of gravity makes it more disastrous than it would be if the rider were nearer the ground."

Effect of Heavy Loads.

That ball bearings are adapted only for light loads is a contention that has often been made. The theory advanced is that the failures arise chiefly from the balls indenting the paths or races upon which they run, and becoming flattened by the load they are unable to carry. Directly this takes place the balls begin to lose their friction reducing properties, which is shown by the following experiment:

"If a semi-circular trough be constructed which accurately fits a ball, and after the ball is placed therein one end of the trough is lifted until movement of the ball takes place, it will be found that the ball moves by sliding and not by rolling. This is indentation carried to its extreme limit.

An observing rider has discovered no less than a round dozen methods of attaching motors to bicycles, ranging from a front driver, with the motor in front of the head, to a rear driver, with the motor suspended back of the rear wheel. He adds that his list is by no means an exhaustive one.

The Week's Patents.

702,469. Carburetter for Explosive Engines. Joseph W. Parkin, Oxford, Pa. Filed March 13, 1901. Serial No. 50,919. (No model.)

Claim.—1. In a carburetter, an air chamber, a substantially cylindrical air tube having an inlet in said chamber, an oil nozzle having an outlet in said tube, and an inclined wire gauze diaphragm in said tube supported by said nozzle between the air inlet and oil outlet, substantially as specified.

702,544. Electric Battery. Philippe Delafon, Paris, France. Filed April 3, 1900. Serial No. 11,351. (No model.)

Claim.—A dry electric battery comprising a suitable casing, a carbon element therein comprising a carbon plate or rod with binoxid of manganese encircling the same and an inclosing wrapper retaining the same in position, an annular zinc element, having openings, and an electrolyte composed of chlorid of zinc and an inert material on both sides of said zinc element, substantially as described.

702,589. Bicycle Seatpost Clamp. Julius H. Rast, Charleston, S. C. Filed Nov. 18, 1901. Serial No. 82,745. (No model.)

Claim.—1. A bicycle seatpost clamp adapted for fastening at variable heights to the seatpost stem and having a laterally movable part adapted to mark the bicycle frame for precisely indicating the place of boring said frame to later receive said laterally movable part for preventing accidental detachment of the seatpost from the bicycle frame, substantially as described.

702,743. Bicycle Construction. John C. Pratt, Hartford, Conn., assignor of one-half to Arthur L. Foster, Hartford, Conn. Filed May 7, 1901. Serial No. 59,097. (No model.)

Claim.—1. The combination with the frame member of a bicycle in which the saddle post is secured, of a pump of which said frame member constitutes the body, a piston rod in the pump, the outer end of which normally projects beyond the upper end of the frame member, means to depress and lock the rod within the said frame member and means to eject the said rod when it is released.

702,750. Cooling Attachment for Internal Combustion Motors. Frederick Thourot, New York, N. Y., assignor of one-half to William Kammeyer, Jersey City, N. J. Filed Jan. 29, 1902. Serial No. 91,777. (No model.)

Claim.—1. A cooling attachment for internal explosion motors, consisting of a hollow body having an enlarged upper end formed with a laterally extending portion, the under side of said laterally extending portion being provided with a screened opening, and a connecting tube provided at the lower end of said hollow body, substantially as set forth.

702,763. Bicycle Mirror. Peter A. Aurnes, Minneapolis, Minn. Filed May 7, 1900. Serial No. 15,672. (No model.)

Claim.—1. The combination, with a bicycle handle bar, of a mirror attached to the tip of the grip portion of said bar and included substantially within the circumference of the same.

702,804. Bicycle. George M. Lilburn, Haverstraw, N. Y. Filed April 18, 1899. Serial No. 713,446. (No model.)

Claim.—1. A driving mechanism comprising a power drum having a clutch driving device, a strap connection having one end secured to and winding upon and off said drum, an auxiliary drum on which an intermediate portion of said strap winds at one end and off which it winds at the other end to vary the diameter of the strap on said auxiliary drum and consequently the speed

or power, said drum also forming a means for projecting a portion of the strap side-wise from the frame and clear of the operator's legs, a stirrup secured to and supported by another portion of said strap and by which the strap is unwound from the power drum to rotate it in one direction, and means for reversing the motion of said power drum to wind the strap thereon, substantially as described.

702,829. Bicycle Wheel Carrier. Claude R. Smith, Olean, N. Y., assignor of one-half to Harry J. Gibney, Olean, N. Y. Filed Nov. 1, 1901. Serial No. 80,796. (No model.)

Claim.—1. The combination with a bicycle, of a supplemental axle rotatably hinged thereto at one end, a spindle adapted to be detachably secured in the free end of the supplemental axle, a combined lock nut and cone for retaining the spindle in position in the auxiliary axle, a wheel mounted on the free end of the axle, a delivery box attached to the axle, a tongue secured at one end to the box, the opposite end of the tongue having hinged connection with the bicycle.

702,841. Elliptic Chain Driving Gear. William F. Williams, London, England. Filed June 25, 1901. Serial No. 65,926. (No model.)

Claim.—1. In rectilinear ball bearings constituted by a pair of opposed grooves with interposed balls, the combination with a grooved block forming the one ball race and fitted in a holder so as to be adjustable toward and away from the other ball race, of a tubular set screw screwing through the holder and bearing against the back of the adjustable block so as to hold said block unyieldingly up to its work, a screw threaded stem attached to the block and passing through the tubular set screw, and a lock nut screwing on said stem and bearing against the end of the tubular set screw so as to lock the block in the position to which it has been brought by said set screw, substantially as specified.

702,842. Elliptic Chain Driving Gear. William F. Williams, London, England. Filed Jan. 15, 1901. Serial No. 43,333. (No model.)

Claim.—1. In a pedal operated driving gear in which an elliptic sprocket wheel is movable in its own plane relatively to its axle but maintained in driving connection therewith, the combination with the opposite faces of the sprocket wheel of sets of cover plates co-operating to exclude dust, and comprising for each set a plate fixed to the wheel and apertured to give clearance for the axle and attached parts relatively to which the wheel is transversely movable, a second or intermediate cover not movable transversely of the axle and adapted to cover the aperture in the first plate and to make light rubbing contact with said plate, and a third cover plate attached to the first, adapted to inclose the joint between the first and second plates, apertured to give clearance to the axle and attached parts and adapted to make light rubbing contact with the second or intermediate plate, substantially as specified.

702,862. Bicycle Support. Eric Moss, Port Arthur, Tex. Filed May 4, 1900. Serial No. 15,490. (No model.)

Claim.—A bicycle support comprising in combination the barrel, the upper end of which has a clamp attached thereto, said clamp comprising the semicylindrical members and hinged together at one side, a swinging nut, the lip to which the nut is secured, said lip depending from the front edge of the member, the free end being adapted to move in a notch produced in the flange, said flange projecting forwardly from the free end of the member, the rod having a head and flange, the set screw, all of said parts being arranged and operating as set forth.



DE LONG Motocycles

ALWAYS GIVE SATISFACTION.

There are no tanks or
bags attached to it.

FULLY PROTECTED BY PATENTS.



PRICE \$200.

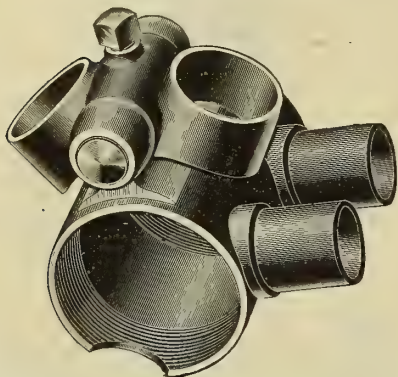
INDUSTRIAL MACHINE CO.

SYRACUSE, N. Y.



Fauber Hinge Bracket

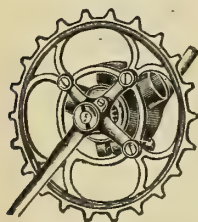
for Cushion and Spring
Frame Bicycles.



The hinge parts are made of forgings.
Bearing points are wide apart lessening chance for
lost motion.
The hinge pin is a hardened and ground taper pin.
Bracket for 1 1-8 in. and 1 in. tubing fitted to all
styles

FAUBER HANGERS

FAUBER MFG. CO., - Elgin, Ill.



"D. & J." HANGERS

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.
ABSOLUTELY THE BEST
Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

—AND—
The 1902 Light Weight Oil Lantern.
STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY
THE NATIONAL CEMENT & RUBBER MFG COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

WANTED—Dutch gentleman with excellent
references well acquainted with Repairing
and fitting up of cycles and automobiles wishes the
agency of a well known cycle manufacturer. Se-
curity can be given if desired. Address L. W.
50, care TIERIE & KRUYT, Booksellers, Amster-
dam, Holland.

ELWELL EUROPEAN MOTOR CYCLE TOURS.

England and France, August 20, 1902.

Great Britain and the Continent starts June, 1903.

F. A. ELWELL, 58 Prospect St., Waltham, Mass.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.

Depots: 210 Lake St., Chicago.

433 Broome St., New York

IDEAL HANDLE BARS

made in all shapes with extensions in 2½ inches, 3½ inches and
5½ inches forward throw. Also with straight stems with and
without internal binders. The cheapest bar on earth, quality
considered. Sole manufacturers

IDEAL PLATING CO.,

3 Appleton Street, BOSTON, MASS.

ARNOLD, SCHWINN & CO.
CHICAGO.
WORLD BICYCLES.
Jobbing Wheels a Specialty.
LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

Wolff-American Bicycles.

STEARNS BICYCLE AGENCY,

General Distributors,
SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

Two Speed Motor Bicycles.

One of the refinements in motor bicycle construction that is going to receive attention, because its advantages are so obvious, is the applying of a two speed gear. Whether this will have its position on the shaft of the motor or in the hub of the rear wheel is something that only the future will determine. From the standpoint of usage and conditions already determined in the parts to be used, the rear hubs with two or more gears that are now being used and advocated in England will probably have an effect in swinging the application to that point, in that country at least.

Whether or not our manufacturers will take advantage of these foreign conditions will, of course, be the determining factor as to the two points of application. On the face it would seem that, not having these hubs within handy reach, they will strike out in original lines and apply the change speed at the most convenient point.

Starting from this position there should be no hesitancy in trying the construction at the motor. This will present less complication, as the coasting and braking details of the hub will not have to be taken into account in the first place, and in the second the changing of the gear at the motor will mean that the speed of the transmission devices will be reduced at the same time.

Without tests to give actual demonstrations to the contrary, this latter certainly presents its own good claims in reducing the strains on these parts, be they belt, chain or intermediate gearing. In fact, if the reducing gearing can be worked out to use up but little initial power, it is not beyond the possibilities that it could be used regularly for the high speed drive. This would mean a nearer ratio pulley, or whatever, both front and back and slower movement of the connecting means used for transferring from the driver to the driven.

England's troubles in Africa, according to the trade press of that country, have but commenced. American and German houses have had their scouts on the lookout, and it would be indeed the irony of fate should they distance the makers of that country, which is paternal to Southern and Central Africa and other parts of the globe.

The Week's Exports.

Only Great Britain took any considerable quantity of American cycle stuff last week; its purchases approximated \$11,000. Germany, with some \$3,000, was the only other country that figured prominently. The record in full follows:

Argentine Republic—1 case bicycles and material, \$312.

Amsterdam—16 cases bicycles, \$240.

Aberdeen—5 cases bicycles and parts, \$75.

Abo—2 cases bicycle material, \$67.

Antwerp—13 cases bicycles, \$528.

British Australia—31 cases bicycles and material, \$738.

Bremen—2 cases bicycles, \$80.

Brussels—1 case bicycles, \$25.

British East Indies—28 cases bicycle material, \$1,974.

British West Indies—29 cases bicycles and material, \$1,365.

Cuba—4 cases bicycle material, \$118.

Copenhagen—5 cases bicycles, \$145; 8 cases bicycle material, \$215.

Dutch West Indies—2 cases bicycle material, \$24.

Dutch East Indies—2 cases bicycles, \$139.

Dutch Guiana—4 cases bicycles, \$110.

Egypt—1 case bicycles, \$75.

Glasgow—4 cases bicycles, \$120.

Hull—3 cases bicycle material, \$180.

Hamgesund—1 case bicycle material, \$10.

Hayti—1 case bicycles, \$10.

Havre—85 cases bicycles, \$1,148; 9 cases bicycle material, \$848.

Hamburg—37 cases bicycles, \$1,020; 45 cases bicycle material, \$2,070.

London—33 cases bicycles, \$2,975; 69 cases bicycle material, \$5,668.

Liverpool—122 cases bicycles, \$2,075; 14 cases bicycle material, \$672.

Mexico—1 case bicycles, \$12.

Malmo—27 cases bicycles and parts, \$390.

Milan—2 cases bicycles and material, \$35.

Newfoundland—11 cases bicycles, \$303.

Rotterdam—1 case bicycles, \$25; 23 cases bicycle material, \$851.

Southampton—38 cases bicycle material, \$2,078.

Stockholm—1 case bicycles, \$30; 2 cases bicycle material, \$100.

THE ONLY REASON

many cyclists are pounding
around on

Boneshakers

instead of riding in comfort
on

**CUSHION
FRAMES**

is that

THE DEALERS

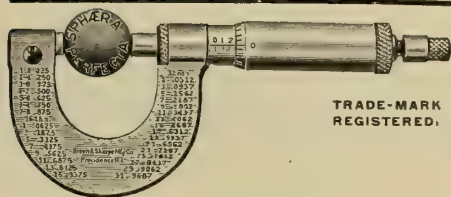
whose business it is to give the
riders a chance to learn the differ-
ence make no effort to afford them
a trial ride on a cushion frame.
It is the trial rides that make
converts and customers.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.



TRADE-MARK
REGISTERED.

**STEEL
BALLS**

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

The H. A. Matthews Mfg. Co.

MANUFACTURERS OF

BICYCLE FITTINGS

of all description and of the finest quality,

SEYMOUR, CONN., U. S. A.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

*Electric Lighted—Chicago,
St. Paul and Minneapolis*

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

*Fast time to Marquette
and Copper Country*

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway • New York 435 Vine St., • Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburgh
369 Washington St., Boston 234 Superior St., Cleveland
301 Main St., • Buffalo 17 Campus Martius, Detroit
212 Clark St., • Chicago 2 King St., East, Toronto, Ont.

THE BICYCLING WORLD

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars.
For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage Them"

is the very book you need.

Every page teaches a lesson. Every illustration
"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

LOWEST RATES FAST TRAIN SERVICE

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.



The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, July 3, 1902.

No. 14

READY FOR THE RUN

Thirty-three Entrants for Motor Bicycle Endurance Test—Bronze Medals for all.

With 33 paid entrants and 4 provisional ones the success of the Metropole Cycling Club's Boston-New York motor bicycle endurance run, July 4-5, is now beyond dispute. It will prove not only the first event of magnitude in which motor bicycles have engaged, but there will be more of them than were ever before gathered at one time.

The 33 entrants and their bicycles as formally declared are as follows:

CLASS A.

Not over 1¾ h. p.; average 8 to 15 miles.

Contestant	Bicycle	h. p.
Emil Hafelfinger, New York, Royal....		1½
George M. Hendee, Springfield, Mass., Indian		1¾
George W. Sherman, Brooklyn, N. Y., Indian		1¾
O. L. Pickard, San Francisco, Cal., Indian		1¾
W. F. Seaman, Mineola, L. I., Mitchell... 1¾		
Charles M. Burnham, Waltham, Mass., Marsh		1¾
Harold H. Brown, Boston, Mass., Marsh. 1¾		
A. A. Hoyt, Whitman, Mass., Marsh... 1¾		
A. R. Marsh, Brockton, Mass., Marsh... 1¾		
W. T. Marsh, Brockton, Mass., Marsh... 1¾		
Jos. Downey, Brockton, Mass., Marsh... 1¾		
H. E. Lane, Brockton, Mass., Marsh... 1¾		
Robert Halsall, Brockton, Mass., Marsh. 1¾		
G. L. Marsh, Brockton, Mass., Marsh... 1¾		
Charles A. Root, Jr., Brooklyn, N. Y., Stratton		1½
Charles S. Henshaw, Buffalo, N. Y., Auto-Bi		1½
George P. Jenkins, New York, Marsh... 1¾		

CLASS B.

Between 1¾ and 2½ h. p.; average 10 to 15 miles:

Charles A. Persons, Worcester, Mass., Royal	2
D. R. Rice, New York, Royal.....	2
George M. Holley, Bradford, Pa., Holley. 2	
G. V. Rogers, Racine, Wis., Mitchell... 2	
K. H. Beeber, Racine, Wis., Mitchell... 2	
Henry Allmen, New York, Mitchell... 2	
F. W. Tuttle, Hartford, Conn., Cleveland 2¼	
J. M. O'Malley, Hartford, Conn., Rambler 2¼	
N. P. Bernard, Hartford, Conn., Crescent 2¼	
Joseph I. Russell, Hartford, Conn., Columbia	2¼
H. J. Wherett, Brooklyn, N. Y., Stratton. 2½	
C. Mankowski, New York, Mitchell.....	2
E. L. Ferguson, New York, Holley.....	2¼

CLASS C.

Between 2½ and 3 h. p.; average 12 to 15 miles.

L. H. Roberts, Waltham, Mass., Orient... 3	
William B. Jameson, Waltham, Mass., Orient	3

As is already generally known the contest will start from Copley Square, Boston, at 8 a. m., Friday, rain or shine, the men being sent away in couples at one minute intervals. Each will be provided with an individual time table. According to this, the first man cannot reach Hartford (126 miles), without penalty before 4.50 p. m. on the 4th. At Hartford the overnight stop will be made and the men restarted at 8 o'clock Saturday morning. The first arrival at the finish at Sixtieth street and Broadway, New York (254 miles) is scheduled for 5:17 o'clock that evening.

In addition to the gold medal to be awarded the man scoring the greatest number of points and the blue, red and yellow ribbon awards, The Bicycling World has offered bronze medals for all who "survive" the run.

The officers of the contest will be as follows: Referee, R. G. Betts, president Metropole Cycling Club; starter, Frank Kellogg, Massachusetts Bicycle Club; checkers, at South Framingham, Charles F. Whyte; at Worcester, Lemont and Whittemore; at Warren, D. E. Graves; at Springfield, J. E. Whitten; at Hartford, H. W. Alden; at Meriden, Wusterbarth Brothers; at New Haven, Campbell Cycle Co.; at Bridgeport, William Stiff; at Greenwich, C. H. Winchin; at New Stiff; at Greenwich, C. H. Minchin; at New York, Joseph Oatman, president A. C. C. of New York.

The New York Motor Cycle Club has joined with the Metropole Cycling Club and will provide refreshment and good cheer for survivors at the finish. The Alpha Motor Cycle Club, of Brooklyn, on the other hand and despite promises, has called a two days run which will take them far away from the scene.

Goodyear Enlarges Again.

The Goodyear Tire and Rubber Co. have completed a real estate deal with the city of Akron that has been pending for more than a year. In return for the cession of a part of Factory street for their use, the company gave a small parcel of land to the city and also \$3,500 toward the building of a bridge adjacent to the property. The company's premises being thus enlarged, they will now erect a 100x50 addition to their plant, which has been under contemplation for some time past.

THREE MEN IN A "POOL"

They Own Some Unlitigated Coaster Brake Patents and may do Something Some Day.

Houk's done it. He has finally formed what a stretch of country permits being termed a nice little pool of his own. Houk—George W., of course—is paddling in it with Albert Eadie and C. A. Hyde.

The "pool," that is, the company, has been incorporated in London with a capital of £10,000 and with the parties named as its first directors. Their objects are to "exploit the patentsof P. L. Kenouf and others in connection with coaster hubs." Mr. Renouf is a prolific inventor who is understood to be in hard luck.

This Houk-Eadie-Hyde £10,000 "pool" is understood to be a distant relative to the million-dollar affair which Houk floated—in the air—after his recent visit to this country. In that pool, according to Houk, but not according to those most involved, the Morrow, Barwest, New Departure and Universal interests were to float in harmony. Just what has happened to this pool—the million-dollar one—is not certain. From this distance and from straws that have been gathered on this side, it appears to have sprung a bad leak. The gentleman who seem to be its London press agent says the combination was expected to reach "its final stage" early last month. He quotes Burns's "best laid schemes o' mice and men gang aft agley" to describe why "the final stage" has been postponed.

Crosby Buys a Factory.

After having paid rent for a good many years, the Crosby Co., of Buffalo, now owns its own home. The purchase was made some two weeks since, and comprises the land and building at Nos. 181 to 189 Pratt street, in Buffalo, of course.

The new factory is much larger and more substantial than the old one, and with added equipment and more conveniently located from a railroad standpoint, it gives the Crosby people facilities that should add materially to their present prosperity.

DUNLOP DEFEATED AGAIN

**Big Tire Company Suffers Another Reverse
—Unusual Point Involved.**

To the Wapshare tire belongs the honor of being the first to successfully oppose an action of the big British monopoly, the Dunlop Tire Co. This victory was won more than a year ago. Now the British courts have again pronounced an adverse decision in a suit brought by the Dunlop Co. against what is to all intents and purposes this same Wapshare tire.

The action took place early this month in London, and was surrounded by all the usual concomitants of big tire cases in the English courts. The long array of legal talent, K. C.'s and plain Mr.'s, including the redoubtable Fletcher Moulton, who appeared for the plaintiffs, was on hand.

The case really turned on the question, What is it that holds a tire in place when the wire, without which it is not supposed to remain in place, is broken or cut, and therefore ineffective? The learned judge admitted that he had to give it up, and neither the counsel nor the experts called to testify could shed any light on the subject. The upshot of it, however, was that in consequence of this mystification the court held that the tire concern did not infringe the Welch patent owned by the Dunlop Co.

The experiment referred to was an interesting one, entirely aside from the interests involved. As described by the judge, it was as follows:

A Clifton tire (the one in question) was taken, with the wire cut, and put on a bicycle, which was ridden by a witness who had been in the box. He rode it up from Wimbledon the previous morning. It was not suggested that it was a road which would not give the tire fair use. The tire was produced in court after being so ridden, and was none the worse for wear. Nobody suggested that a successful tire could be made with the wire cut in two. So here they had got a wire such as would perform the duty of keeping the tire on and yet it was inextensible.

It was said that a mere experiment of this kind with one tire was only, like the others, academical. Mr. Moulton went so far as to say that the Welch tire would do the same, and that it was possible to ride a Welch tire with the wire cut. His Lordship was sorry he could not accept that statement from Mr. Moulton as counsel. If he had stated it in evidence and been cross-examined upon it, it might have been different, and they might have had a very interesting discussion as the result. His Lordship therefore could not take it that the Welch tire would operate thus if the wire were cut. He saw his way to adopting the argument that the tire a commercial tire—when in ordinary use was

not inextensible, and that really it was not an infringement of the patent.

The effect of the experiment to his mind was this: It was not the fact that the tire could be ridden with the wire cut so that the wire did not hold the tire on by reason of its inextensibility. It seemed to him to logically follow that if a wire held a tire on by reason of its inextensibility, then when the inextensibility ceased the holding of the tire ceased to operate by reason of its inextensibility. When, therefore, he found that a tire with the wire cut was still held on, and held on by the wire, he did not see his way to escape the conclusion that the wire held it on by some other power which might be undefined. It could not be inextensibility.

It seemed to him that a wire which operated when it was inextensible, and still operated when it was not inextensible, the tire in such case could not be held on by reason of the inextensibility of the wire. He rather regretted to decide the case, which was at all events of some importance, upon one experiment which might have been carried further, but he could come to no other conclusion, and judgment must therefore be for the defendants.

The action was dismissed accordingly.

It is understood that an appeal against this decision will be proceeded with promptly.

Winning on its Merits.

Deep as the fathomless sea is the pity—it is charitable not to designate it by a stronger name—felt by the coaster-brake rider for his fellow who has yet to become converted to the joys of the "free wheel."

What the other fellow is missing only the "free wheeler" can understand. That the abstainer from the fascinating device will recant, and sooner or later become one of its most devoted admirers, he firmly believes. He does not waste any thought on that part of the matter. It is the valuable time the dissenter is losing, the delightful rides in which he might indulge now, that excite his commiseration. The future will take care of itself, he thinks. But the past is lost irrevocably, and the present, too, is fast gliding by.

It is only the prejudiced or the indifferent rider who can now hold out against the coaster-brake. Once he begins to look into the matter, to weigh the claims made for the device, to watch riders who have it fitted to their machines, he is lost. Almost without exception he falls a victim to its wiles, and is grateful ever after.

There is no reason to regret that this is the case. Indeed, it is a good thing, for it insures the coaster-brake a victory on its merits.

To Take Over Eager Business.

A stock company is being organized at Toledo, O., to take over the business of Eager & Co., who recently assigned, and that of Norman Deveau, who is now conducting a retail bicycle and sporting goods store on Superior street. Fifty thousand dollars is the contemplated amount of the capital stock of the new company, which will probably do business under the name of Gamble & Deveau. B. A. Gamble, who was one of the members of the firm of Eager & Co., is promoting the company.

PINCHING THE TUBE

How Such Tire Trouble is Caused and how it may be Avoided.

"Reading your editorial on single tube and double tube tires for motor bicycles," remarked a well-known user of these machines, "calls to mind a point in the use of double tube tires, which I most heartily believe in from extended experience with both kinds, that should be given attention and urged upon the users by the makers. And that is the replacing of the inner tube after a repair.

"A fellow motocyclist got a set of double tubes on my suggestion and then sailed into me for the constant repairs he had to make. It so happened that for a time I couldn't get out on a run with him to see what really happened. My opportunity came at last, though. To begin with he hadn't been getting punctures at all; with one or two exceptions they were rim pinched. I was going to say fortunately a case happened with him in the first five miles we were together, but it was not a case of fortune, it was a moral certainty, when I saw him fix the leak.

"Somehow he had gotten the idea into his head that he only need to pump up the tube just the least bit before he put on the outer casing. Of course he had trouble; why shouldn't he? The tube was so flabby that every time he put it back in the rim and sprung on the casing it would get nipped at some point and in time break just under the edge of the canvas strip. As a matter of fact all his patches were at this part of the tube. I put the tire together for him and pumped up the tube until it was of decent size. Of course this makes the casing go on a little harder, but the results are worth the effort. The point about this is to learn how much to pump up and how little.

"A few trials, always starting at the "much" side and coming down gradually each time, will soon determine this. I get a puncture once in a great while, but you can't find six patches on one tire and four on another, from rim pinching, as I did on his machine."

Hillsboro Bars Motor Bicycles.

Hillsboro, Texas, has exactly one motor bicycle, a Mitchell, and the possession of John N. Bucher. But the "city dads" of Hillsboro are dead set against the "new fangled thing," and accordingly have where-ased and resolved that it shall not be driven by motor power within the city limits. Perforce Bucher must pedal until he reaches those limits. It is almost unnecessary to say that he does not relish the state of affairs.

Coaster Brake on Front Wheel.

C. F. Keuleber, a dealer of this city, has applied a coaster brake to the front wheel of a motor bicycle, and reports excellent results; it is used purely as a brake, of course. He employs the lever used on a spoon brake, and by using a long connecting rod which attaches to the arm of the coaster brake, the device is made to work very nicely.

NOT A MERRY MAY

The Month Brought Quite a Drop in Exports
—Gains in Unusual Places.

There was nothing particularly merry about the month of May, so far as cycle exports are concerned. In point of cold fact, it was the worst month of the year, the shipments falling off to the extent of \$80,700 by comparison with May of the previous year.

Continental Europe, and Canada, as a matter of course, accounted for most of the loss, England having improved its purchases some \$8,000 worth. In Australia a falling off also occurred; indeed, the increases were all in unexpected quarters, China, strangely enough, being good for the greatest gain, next to that recorded in England. Mexico, South America and Japan were the other most favorable spots on the map.

The month's shrinkage bit well into the balance shown by the statistics for the eleven months, and will bring the fiscal year's increase to commonplace proportions, the record for the month and the eleven months being as follows:

Exported to—	May—		Eleven months ending May—		
	1901. Values.	1902. Values.	1900. Values.	1901. Values.	1902. Values.
United Kingdom.....	\$45,853	\$53,950	\$420,376	\$365,392	\$407,588
France	28,003	15,240	220,052	154,877	197,319
Germany	43,639	31,070	391,609	186,708	297,146
Other Europe.....	85,277	47,358	668,750	464,548	554,971
British North America.....	52,612	22,559	352,988	282,954	149,673
Central American States and British Honduras.....	564	340	2,584	5,010	4,454
Mexico	2,404	2,971	23,076	19,217	20,656
Santo Domingo.....	39	.....	300	484	793
Cuba	672	2,279	147,507	13,000	16,035
Porto Rico*.....	.....	.....	2,506	.....	.....
Other West Indies and Bermuda.....	5,917	4,755	48,239	48,536	46,270
Argentina	375	1,749	158,307	24,040	9,644
Brazil	229	289	26,292	9,312	5,181
Colombia	68	24	6,269	612	981
Other South America.....	2,380	3,237	61,118	30,862	23,818
Chinese Empire.....	2,575	6,664	25,610	15,307	58,364
British East Indies.....	5,761	4,143	101,027	52,455	43,261
Hongkong	938	1,046	7,886	8,981	4,904
Japan	42,964	45,765	207,334	225,814	213,332
British Australasia.....	21,802	16,761	229,977	194,356	191,953
Hawaii*.....	.....	.....	51,209	.....	.....
Philippine Islands.....	807	797	22,427	66,545	16,489
Other Asia and Oceania.....	595	1,236	38,948	22,411	23,189
Africa	6,369	6,892	57,827	87,723	104,418
Other countries.....	.....	12	306	255	129
Totals.....	\$349,843	\$269,137	\$3,272,524	\$2,279,399	\$2,390,558

*Now American possessions and no longer included in statistics.

For Motor Construction.

Two valuable properties of nickel steel containing 36 per cent nickel are a low coefficient of expansion and a resistance to oxidization and rust. It has the least coefficient of expansion of any known metal, being only one-thirteenth that of iron, or about 0.0000005 for 1° F., says Machinery. This remarkable freedom from variation of length under a variation of temperature makes it a possibility in certain parts of air cooled motor construction.

Used Too Thin an Oil.

The Kentuckian saying that "all whiskey is good whiskey, but some whiskey is better," doesn't hold good with lubricating oil for motors, as one dealer found out from a recent experience in causes for stopping.

He had used up the supply sent with the chased sewing machine oil. Of course, about the first thing that happened was saturation of the spark plug. But what of that? he thought; he remembered that spark plugs were to be looked at, so out it came, and its wet appearance reminded him that he also knew to keep the plug dry. Of course, he had only to clean it, when all would be well again.

Alas for his wisdom! the machine stopped again after about a mile of running. It couldn't be the same thing twice, so something must be wrong, was his reasoning. Again alas! Everything seemed all right, and the only thing to do was to examine that plug once more. Same trouble again. Greasy looking. He cleaned it once more, put it back, started on again, and this time when the motor got an intermittent fit of running and stopping he, too, took on a stubborn mood and rode back to his store, condemning anything and any one but himself.

It hasn't occurred to him yet that the whole trouble was thin oil in the crank case.

JUDIN'S LONG JOURNEY

More Than 1200 Miles After but Three Days
Experience—Battery's Good Record.

Milwaukee, Wis., June 26.—Professor J. F. Judin, physical director of the Y. M. C. A. here, has just returned from his motor bicycle trip to the East. He expected to return on his Mitchell, but an imperative call from the Y. M. C. A. authorities obliged him to return by train. As it was, however, his trip was the longest yet made on the type of machine—1,265 miles, according to his Veeder cyclometer.

Mr. Judin's path was not exactly one of roses. From the time he left Racine until he reached Suffield, Conn., it rained every day, and on the clay roads he had a slippery time of it. Once he charged into a stone fence, another time he fell into five feet of water, and while on the towpath in New York State he suddenly encountered a heap of stones and had a heavy fall, narrowly escaping a bath in the canal.

The professor made no effort at record breaking, his trip being merely one of recreation. He crossed the lake from Milwaukee into Michigan, thence to Canada, reaching the United States via Niagara Falls and Buffalo. He spent several days at the later point, and resumed his journey to Suffield via Albany. He stopped with relatives in the Connecticut town, making side trips to Boston, Fall River and New York.

As stated, he used a three cell Mitchell motor bicycle, and went through without change of batteries and with no expense save that for repairs caused by accidents. Mr. Judin's ride was the more remarkable because of his having but three days' experience with motor bicycles previous to setting out. It is understood that the Wisconsin Wheel Works will publish the professor's story in booklet form.

The Status Correctly Stated.

"The motor bicycle is in its right place: it's the head of the bicycle business, not the tail of the automobile trade," is the terse and almost epigrammatic saying of a man whose heart is very, very much with the motor bicycle and the bicycle trade.

Fourfold Increase.

Richard Clunen, who has been traveling upper New England for the American Cycle Mfg. Co., is in New York this week. He reports that in his territory the company sold exactly four times as many bicycles of all sorts as were sold last year.

Philadelphia's Parade.

The Philadelphia Cycle Dealers Association has set July 21 as the date for its lantern parade. It is expected that illuminated floats will be a feature of the affair, a number of dealers have agreed to make displays of the the sort.

Appears a Dog-Gone Shame.

The English bicyclist is in a sad plight and don't know whether to own a dog or a motor bicycle. The whole trouble comes from a peculiar ruling which puts the matter in this way. A dog license is granted to its owner, but a motor-bicycle license is granted to the machine. Ergo; if a man sells his dog in July the license will hold good for its successor until Dec. 31. If the owner of a motor-bicycle, or the seller thereof, vendors or handles another mount he, per se, cancels the license for same.

RIDDEN ALL OVER THE WORLD.



*TOURING THE AZORE ISLANDS ON A
NATIONAL BICYCLE.*

NATIONAL CYCLE MFG. CO.,
Bay City, Mich.

MAY 22, 1902.

GENTLEMEN:—I wish to compliment you upon the superior workmanship displayed in special wheel built for me.

The beautiful little machine arrived day before yesterday, and I could hardly wait until it was uncrated. I placed the machine on exhibition in the store and it attracted all manner of attention. After trying it on the road, find that it is the lightest, easiest running machine I ever owned. This is making a broad statement for the reason that I have had many special wheels built for me in the 18 years that I have been riding. Am very proud of the little wheel, and I wish to thank you for your efforts in designing and building so splendid a machine. Nationals always did run easy, and the riders here are now fully convinced that they are the acme of fine workmanship and bicycle building.

Respectfully,

H. K. SMITH.

The purchase of a National is economy in the long run.
The sale of Nationals is a good business proposition.

TIRES WON'T MAKE YOUR MACHINE—

But they will add greatly to its value if they are

.....FISK.....

for it is a well-known fact that

FISK TIRES

are the highest grade.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY.

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] **\$2.00**
Single Copies [Postage Paid] . . . **10 Cents**
Foreign Subscription **\$3.00**

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, JULY 3, 1902.

Hillsboro's History Making.

Although possessing but one motor bicycle and itself far removed from the centre of cycling interest, Hillsboro, Tex., has started in a small way a movement that has been long expected and that will gather force with the days until it becomes a living issue.

Hillsboro's city council has passed an ordinance prohibiting the use of bicycles propelled by motors on the streets. In consequence, Hillsboro's solitary motocyclist is compelled to pedal his heavy machine to the city limits before applying its power. Naturally he considers his rights infringed and is anxious to learn where he can find light and assistance.

What Hillsboro has done other places will do as motor bicycles multiply and reach their "midsts" and the motor bicyclists will find themselves in a similar position to that in which the Texas pioneer is now placed.

With modification and ramification, the motor-bicycle will live over again the history of its motorless predecessor. Not all,

but nearly all the trials and tribulations that beset the one will beset the other and the peculiar man-or-motor-power nature of the new comer will permit legal and legislative hairsplitting and argument that will entail much vexation, to use a mild term, and that will require the strong arm of organization to combat.

Like the Hillsboro man himself we may question the city's right to practically deny his vehicle the use of the streets, but standing alone of what purpose is his individual protest?

It required no prophet to foresee the trend of events. We early pointed to the shadow on the wall and as early urged that the League of American Wheelmen rehabilitate itself by explicitly taking under its wing the motor bicycle, as a logical development of the bicycle as we have all known it. Within the past two weeks we personally urged the matter on the president of the organization and have some reason to believe that our urging will not prove vain.

Action of the sort will prove of vast benefit to all concerned. The league has name, some fame and much of the machinery of organization lying disused and cobwebbed. It lacks only the oil of a live issue to give it movement and the motor bicycle supplies the oil. It needs the league and the league need it. In the person of motocyclists it will give the league a corp of active and interested workers in all parts of the country which is exactly what the league most requires to regain position and prestige, and the motocyclist requires the aid and protection which the league can and should afford.

There will be a numerous crop of Hillsboro ordinances before two years will have passed and there already confronts the motocyclist the railroad and the steamboat baggage question which is a vexatious and expensive one as it is, but which only the motocyclist is in position to appreciate. There will be laws to fight and enact, test cases to carry high up in the courts and all manner of such strenuousness which none could foresee before motors were applied to bicycles. The time to prepare for such things is now, and unless the L. A. W. acts shortly we believe we can promise that life will be breathed into a dormant organization that saw the wall shadows when they were but dim tracings and which was born before its time.

What the Run Means.

Unless all signs fail, the Boston-New York motor bicycle endurance run on Friday and Saturday last will prove of incalculable

value to all whose interests are bound in the interesting little vehicle.

The public's eyes are not open to its merits and practicability and aside from the performances of the contestants the mere spectacle of 30 or more motor bicycles will prove of an eye-opening nature. That this is true was evidenced by the remark this week of a disinterested and uninformed man who seriously stated that he did not know that there were 30 motor bicycles in existence.

The machine is as yet a curiosity, and a public demonstration such as the endurance run will prove was needed and will awaken interest and inquiry in every direction and prove an educator and stimulus that is beyond price. It really marks the beginning of the motor bicycle in the mind of what we term the "great green public."

The Sale of Motor Bicycles.

There is one feature in the making and selling of motor bicycles which is only realized by few because comparatively few are in a position to have applied knowledge in the matter. The specific point we refer to is the period covering the selling season.

In motorless bicycles the rush selling season is and for years has been the spring months. It was the experience of at least one motor bicycle maker last year that sales were fairly even up to the first of October, as a matter of record it can be stated that August sales were ahead of May and equalled by 90 per cent. those of June, which was the largest month. July and September sales were also near the mark of those of August.

In support of the experience of this maker is the statement recently made by the sales manager of another that has entered the field to a large extent this year. This statement was to the effect that sales had been on a constant increase from the first shipments and was offsetting the falling off in the "regular"—motorless—line. It was his belief that motor bicycles gave promise of a season through business.

There are many causes which tend toward this condition and perhaps the chiefest is that the motor bicycle is a hot weather machine par-excellence. Many riders, even of the ultra enthusiastic kind, hesitate in hot spells to pedal their machine at the expense of excessive perspiration. Of course there are many riders who use good judgment and sense in hot weather riding by not

letting their desires to get somewhere override their comfort, but there are many others who never ride but with a rush and for that reason have gotten into the habit of doing only a little riding through the heated term.

To these, but more to those who from physical causes suffer from the heat of July and August, does the motor bicycle appeal. No matter how hot the day this machine carries its rides not only without exertion on his part, but with a fan-like effect, creating cooling breezes, bringing him to his destination calm, cool and collected, instead of as a spectacle so often seen when the "scorcher" rushes up to a stopping place, damp, dirty and disfigured.

When the cooling effects of riding a motor bicycle becomes better known there will be more who will use it. Many who have ceased to ride from the one cause of hot weather exertion, will come back to bicycling again. They will not only be a cause to increase motor bicycle sales as a whole, but they will make it a business demand for more than the spring months.

Hard Problem in Tires.

Apparently one of the hardest things a tire manufacturer has to do is to produce and market at a profit a tire suitable for motor pacing machines.

If pace followers and their managers are to be believed, the tire question is the most troublesome as well as the most expensive one with which they have to contend. Tires, even the best of them, wear out with almost inconceivable rapidity and must be replaced, the process requiring the expenditure of sums small in themselves but imposing in the aggregate.

Odd as it may seem, "life" is a quality that must still be reckoned with in the case of pacing tires. One would suppose that there was ample power at hand to make their resiliency a matter of little or no importance. But it is asserted that only the big motors which have come in this year are adequate to the task of pushing machines fitted with "ironclad" tires.

That the task of producing tires of the sort wanted is a difficult one all who have given the subject thought will admit.

They are subjected to tremendous strain, being pumped to a high pressure, and their walls must be so constructed that they will withstand it without untoward results. But this feature, marked as it is, is not the worst one. The wear on the cement or rough board tracks is tremendous; it is no unusual thing

for a tire to fail to go through even a twenty or twenty-five mile race without mishap.

The opinion is pretty general that nothing will solve the problem but the gradual adoption of the more powerful motors.

This will allow of big tires, similar to those used on automobiles, being fitted without any injurious effects following.

The Coaster Brake Model.

By one whose faith in the coaster brake is proven by his attitude and who is not interested in its manufacture we are assured that while our urging that bicycle manufacturers list a distinctive coaster brake model for 1903 is all right as far as it goes, it does not go far enough. He would have us work to the end that coaster brakes be made standard equipment, and the bicycle without the device be made the exception and not the rule in bicycle catalogues.

The temptation to do so is strong. Our belief that such a condition of things will come to pass and that coaster brakes will ultimately come into well nigh universal use is deep rooted. There is every reason why it should do so and few, if any, reasons why it should not.

But at the same time we realize that this confidence does not carry every one with it and that the move may be too radical for one bound.

The first step toward the end will be the listing of a coaster brake model and if the catalogues of 1903 are not quite generally distinguished by that comparative innovation we shall be surprised, but our surprise will not alter our opinion that the makers of bicycles are failing to make the most of an opportunity.

Weight Not Likely to go Down.

So far from being able to make any material reductions in the weight of the present day machines, makers as a rule are quite satisfied if they can prevent an increase.

The changes in design which render possible a further cutting down in weight are now few and far between. Those which tend in the other direction, however, embrace nearly all changes, for they have come to mean not any further simplification or cutting away of some non-essential part, but the addition of a feature which commends itself in spite of the addition of weight it entails, or would entail, in the ordinary course of events.

If we take the coaster-brake as an illustration we will have a case in point.

The device entailed, and still entails,

greater weight. Refine it as they will, makers cannot get away from the fact that the coaster-brake hub is considerably heavier than the plain one. When to this is added a strengthening of the rear wheel, and sometimes of the frame, it will be seen just what is meant.

At one time a decided strengthening of these parts was looked upon as essential.

Without it trouble was certain to result, it was argued. With this strengthening matters might be as they were before, but certainly there would be no improvement as far as standing up went.

As the event has proved, these anticipations were ill founded; or, at least, no increase in weight has actually resulted. The rear wheel is usually heavier when a coaster-brake is fitted, and the frame is sometimes in the same condition; but this movement has been counteracted in another direction; the total weight of the machine has rarely been increased. The good designer is always able to put his finger on a place here and there where a fraction of an ounce, or even an ounce, can be taken out.

It is probable, almost certain, that future improvements—variable gears, to mention only one—will entail the same weight addition. If they can be met in the same manner, and the net weight of the machine kept down to present figures, we will have cause to congratulate ourselves.

The American export trade is due to receive another blow below the belt, and foreign buyers cupfuls of bitter disappointment. The most malodorous house in all America has started a man to "do" the foreign countries, South Africa being the first country on his list. Whether the word "storage" will be made to cover the multitude of lies and frauds that it is made to cloak in this country remains to be seen.

On Saturday last at aristocratic Cedarhurst, L. I., the aristocratic Rockaway Hunt Club played a game of polo with the aristocratic Milton Club, of Dedham, Mass. Other games of polo had been played, but on this occasion, as the accounts relate, "ponies were dispensed with and bicycles were used." Is it possible that it marks the return of "sassiness" to the bicycle?

Dealers who have customers who suffer from cramp should recommend them to have rubber pedals instead of rat traps for long journeys.

Orients Win Everywhere.

MERIT WILL TELL.

First, Second and Third Place in the Great Irvington-Milburn Road Race.

Wyckoff, on an Orient Motor Bicycle, wins the 10-mile motor race.

The Orient Motor Bicycle also wins first place in the great motor races at Bexhill, London, England.

At Staten Island Speed Contest the Orient 3-H. P. Motor Bicycle makes a straightaway mile in 1:10 2-5.

SUCH RECORDS AS THESE NEED NO COMMENT.

WALTHAM MFG. COMPANY, WALTHAM, MASS.

Schrader Universal Valve.

(Trade-Mark, registered April 30, 1895.)

—NOTICE—

Manufacturers of Bicycles, Jobbers and Dealers:

In order to facilitate the obtaining of

PARTS

of the
**SCHRADER
UNIVERSAL VALVE,**

I have concluded to sell parts only to the general trade.



Parts 99-1, 99-2, 99-3, 99-4, may be had from all the makers, or from

A. SCHRADER'S SON.

Price List and description of parts sent on application.

Simple and Absolutely Air-Tight



MANUFACTURED BY

A. SCHRADER'S SON,

ESTABLISHED 1844.

30 and 32 Rose Street, NEW YORK, U. S. A.

CINCH

COASTS FREELY ON BEARINGS.

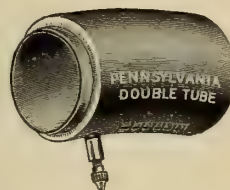
GROUND AFTER HARDENING.

Brakes Metal to Metal.

Drives Without Friction.

RIGGS-SPENCER CO., Manufacturers, Rochester, N. Y.

Jobbers, Be Wise!

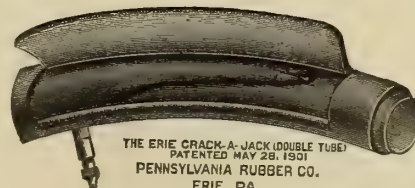


Handle these
Goods and

MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK (DOUBLE TUBE)
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO

BOSTON
PHILADELPHIA



THE SALESMAN'S VIEWS

The Things That "The Man on the Road" Says Influence Orders for Good or Bad.

No doubt there will be many different ideas put forth in the treatment of this subject, for the methods that seem best to one manager another will deem altogether wrong, and the treatment that will please one customer will displease another. But I feel sure that no orders will be lost by all jobbers, and their men, avoiding the mistakes I will mention, writes a hardware traveller dealing with a subject that applies to all other trades. As the travelling man comes in direct contact with the buyers, he is largely responsible for losing the orders the other man gets, and very largely for the profits he fails to make.

He is asked to meet a quotation which a buyer claims he has, and the poor fellow hasn't the nerve to even find out if the quotation is genuine or the tact to refuse to meet it, and at the same time get the order. Buyers are sometimes mistaken as to the prices they have, and the salesman who meets all the quotations he hears of will ruin his profits, and his customers will "work" him and give their best orders to a better salesman.

Salesmen very often do not use proper care as to time, place and manner of approaching a buyer. A great deal depends on a favorable impression, and a very little thing will turn the tide of an order. A safe thing to avoid in the presence of a buyer or his customers is gossip or heated discussions, especially about politics, religion or competitors. Talk of the two former is very likely to offend, and of the latter only furnishes free advertising.

Goods are sometimes misrepresented or too highly praised. A disappointed customer is likely to send his next order elsewhere.

An overbearing "know it all" manner may please a few buyers, but the majority will resent such treatment and buy from the other man. On the other hand, orders are lost by being too timid. Unless a salesman is fully confident he is not likely to make a favorable impression.

Wrong kinds, or brands of goods, are sold to a customer because a salesman is not properly posted as to the customer's needs. Many buyers are more ignorant than they wish to appear, and they appreciate and patronize those who can supply their deficiencies without calling attention to them.

How much jobbers lose by sending out small salaried, incompetent salesmen can never be known, for no record can be kept of the orders that are missed by such men. They also cause the loss of the respect and patronage of their houses, and even the best of men must take a long time to regain it.

Much dissatisfaction is caused by the careless handling of mail orders. Usually a cus-

tomer is out of the goods he orders by mail, and even a trifling omission or delay seems gross carelessness to him.

Items are placed on back orders or "scratched" without notice to the customer, who daily expects the goods and gets very angry when they don't come.

Substituted articles are sometimes satisfactory, but in the great majority of instances they cause a lot of trouble, and are best left off altogether. Orders are often held necessarily for a few days, but the customer is not notified of the cause of the delay and when he may expect a shipment. As he knows no reason for delay he supplies one, usually wrong, and always detrimental to the jobber from whom he ordered the goods.

The mistake is made by some houses of not keeping in close touch with the trade by correspondence, circulars, etc. The travelling man is depended on to do all the soliciting. The result is the well advertised, letter-writing houses get the mail orders.

Parties are sold who have no right to credit, nor any idea of business methods or legitimate profits. This practice leads to a wreck of prices, a clamor for cheaper goods, and is the making of many bad accounts.

Long datings are given instead of the usual sixty days. This often causes a customer's account to get larger than it should be, but as there is nothing due he cannot be asked for a payment nor a check put on his buying without giving offence. Prompt payment of accounts is not insisted on, and they are allowed to become overdue without arrangements being made for an extension. The account usually grows larger and gets proportionately harder to pay. The final result is loss of both the customer and the account.

A weak customer gets behind, and instead of writing in a straightforward, businesslike manner, and telling him that it is not satisfactory to ship him more goods until a payment is made, his orders are entirely ignored or held for a few days, hoping for a remittance, or the principal items are scratched, or some other excuse is made, until the customer has a just reason for getting mad, and he does so. Then the account is hard to collect sure enough.

Only one more mistake I will mention: Trying to improve business methods and avoid these mistakes without the co-operation of other houses and their salesmen. This will never be done.

May Bridge Seasons.

Arthur L. Atkins, manager pro tem of the Columbia factory at Hartford, is in the city this week, and like many other oldtimers gives symptoms of motorcycle inoculation. The demand is ahead of the supply, and the advent of the so-called dull season does not, he says, appear to carry a diminution of orders. He ventured a speculation as to the ideal state of the cycle trade did the motor bicycle bridge the gap between seasons.

SECRETS EASILY SOLVED

Queer Attitude of Many Motor Makers and how a Dealer Purposes Meeting it.

"A thing that is hard to understand," recently remarked a motorcycle expert, "is the secrecy which some makers of small motors maintain as to such items as stroke, bore and compression. There is too much exclusiveness on this score by some who seem to be imbued with the idea that they have nothing to learn and no information to give away.

"This is a very narrow-minded way of looking at things as they are at present. Previous to the present there may have been reasons, sufficient to those taking this position, but now that machines are getting out in considerable numbers around New York and up in New England, common sense ought tell this class that they are like the proverbial ostrich with his small head buried in the sand and his great big body exposed to the wide, wide world.

"It is undoubtedly to the interest of the makers as a whole that the widest possible ventilation be given to any matter that is at all likely to give impetus to their specialty. One would think that details which can so readily be found out would be cheerfully given to save the legitimate inquirer the bother of finding out. These things cannot be hidden if we want to go to the trouble and expense of getting at them; why not secure our good will by saving us this trouble and expense.

"The entire matter appeals so strongly to one dealer whom I know that he is preparing a rigging for finding out. He is selling lots of these machines this year, and when the salesman for next season comes around he will be made to prove a few things before he can secure an order. The makers who go gunning for him will find he also has a small arsenal of his own."

One Cause of Losses.

It is the laudable ambition of all men in business to increase their turnover every year, and provided this is done with a corresponding proportional decrease in overhead expenses—or, as it generally expressed, "dead charges"—it can hardly be questioned, says *Bicycling News*, that the concern is a progressive one. But the trouble generally is that three-fourths of the trade are apt to keep insufficient books, or fail to enter their books to date, so that it is practically impossible to say what their exact position is until the end of the season; in fact, some agents even then do not go deeply into the matter, and so long as their stock appears about right and the book balance is good, they allow things to slide.

The latest promise is a new brass alloy, of Geneva origin, which is going to replace steel in bicycle construction.

VARIABLE GEARS

Sturmey Devises a New One—Embodies Some Novel and Ingenious Features.

That the future is big with promises for the multiple speed gear on bicycles no one can doubt who keeps posted on these matters. At present activity in this direction is mostly confined to England, but its obvious advantages would indicate that it will not be known nor appreciated there alone.

Among the devices in this line that aggressive plans are being made for, is one designed by Henry Sturmey, who for many years was editor of the *Cyclist*. According

to the chain wheel side carrying the chain ring and revolving freely on ball bearings within the hub shell, and that on the opposite side being rigidly attached to the shell. These cylinders are slotted, and carry rings which are free to slide along them and which carry inwardly projecting arms 40 45, which fit into the slots and thus cause them to rotate together with the cylinders. The arms are inserted between the two flanges of collars 20, 21, sliding along the wheel pin, and actuated by pins 16, 17, passing through slots in the wheel pin, and connected with a rod sliding within the hollow pin. These rings carry clutch collars 38, 39, 43, the one on the plain end of the hub being provided with a single collar, that on the sprocket end having two, the one being deeper than the other.

the hub is brought into engagement with the clutches on the end of the pinion cage.

It will thus be seen that the sprocket now drives the sleeve instead of the hub. This sleeve carries the outer member of the Crypto, and this, acting on the pinions, causes them to rotate and carry their containing cage round at a less rate than the sleeve. But the cage is connected up with the clutch on the cylinder attached to the hub, so that it rotates the hub at the same rate of speed, and gearing down is affected.

On the other hand, by freeing the lever on the frame and allowing the spring on the fork side acting on the slide bar to force the clutches as far back as they will go in the opposite direction, the sprocket clutch is engaged with the pinion cage, and the hub

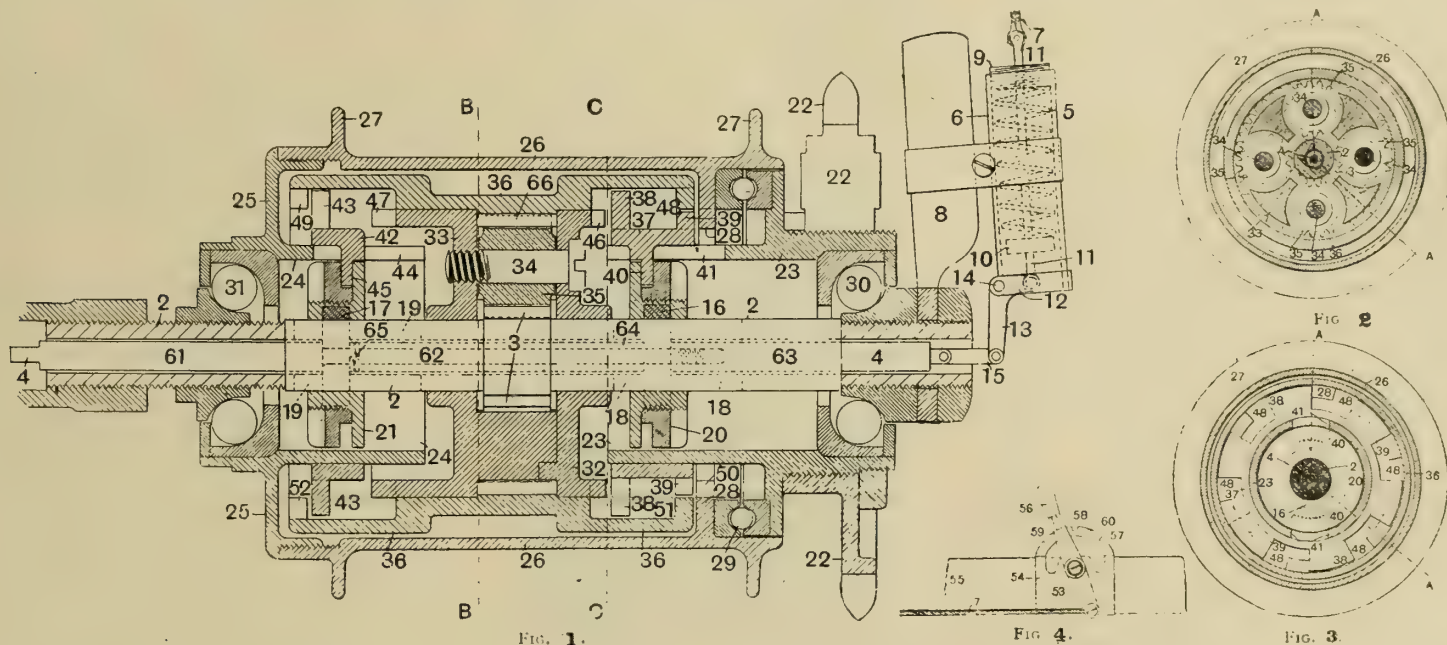


FIG. 1.

FIG. 4.

FIG. 3.

to the inventor his variable gearing will be on the market in a few weeks' time.

Three speeds are provided for and the mechanism is entirely inclosed in the hub. A free wheel is obtained on gear by the simple expedient of screwing on an ordinary free wheel chain ring. The Crypto principle is employed, and this is arranged as follows: In the accompanying illustration (figs. 1 to 4), fig. 1 is a longitudinal section, figs. 2 and 3 sections through the lines B B and C C respectively, and fig. 4 the actuating gear on the top tube of the frame.

Upon the centre of a hollow spindle is fixed the centre wheel 3 of the Crypto. The pinions 35 around it are carried between two collars 33 flanged outward top and bottom, their innermost flanges forming bearings, which support them rotatively on the axle. The outermost flanges are notched to form clutches, and support upon them a sleeve 36, which carries the outer member—the internally toothed wheel—of the Crypto centrally. The ends of this wheel are furnished with collars, also notched to form clutches 48 and 49.

The two ends of the hub proper carry inwardly projecting cylinders 23, 24, that on

to the inside of the hub shell is secured an inwardly projecting collar 28, which is cut into clutch teeth to correspond with those on the shallower collar of the clutch ring, this collar being fitted just clear of the end of the sleeve at the sprocket end of the hub.

The action of the gear is this: In the normal position, the shallow collar 39 of the clutch ring rotates on the cylinder which is attached to and actuated by the chain ring, so that it will be seen the hub is driven direct without the action of any gear. This gives the middle speed, which is whatever gear, and is obtained in the usual way by the number of teeth used on the sprocket and chain wheel.

The sliding rod, with the wheel pin, which actuates the clutches, is pulled to the right by a wire from a lever (fig. 4) on the frame, acting through a bell crank lever, on the fork side, as shown in fig. 1. This moves both clutch rings simultaneously to the right, the engaging clutch is drawn out of engagement with the hub, and the deeper clutch on the same clutch ring drawn into engagement with the clutch teeth on the right end of the sleeve, whilst the clutch carried by the cylinder at the other end of

clutch with the opposite end of the sleeve. Thus the pinions are driven, increasing the motion of the outer member of the Crypto, which is the sleeve, and so carrying with it, and gearing up, the hub.

It will be seen that by this arrangement, whilst all ordinary riding is done without the use of any gearing, and consequently with no more friction than with a fixed gear machine, the rider has at command a low gear for hills and heavy work, and a high gear for descending slight slopes, travelling before the wind, etc.

In the gear the inventor is using, the proportions give a 25 per cent. reduction, and a 33 1-3 per cent. increase from the normal, or a 45 per cent. reduction from the highest gear, as its extreme range. In practice this works out at 88-inch gear for the normal with 66-inch low gear, and 117 1-3-inch for the high. At first he found some difficulty in making the changes, owing to friction on the clutch faces carrying them round, but he got over this by using a free-wheel sprocket, and beveling the clutch faces.

The weight of the hub complete is 2 pounds 10 ounces, as now made, but in the commercial article it is anticipated that several ounces will be knocked off, and the gear ratios reduced to 20 per cent. reduction and 25 per cent. multiplication.

RACING

Ten thousand spectators viewed the races for the championship of the world at Rome on June 15. The amateur championship was run off in four demi-finals and a final. Piard, of France, won; Delaborde, of France, second; Orla Nord, of Denmark, third, and Paton, of Belgium, fourth. Distance, 200 metres.

The professional championship was run off in four demi-finals and a final. The first, at 200 metres, was won by Ellegaard, Restelli second, Galadini third. The second demi-final was won by Meyers, Ferrari second and Gerlach third. The third demi-final was won by Grogna, Rutt second and Jue third. The fourth demi-final was given to Bixio, Lawson and Arend falling and being prevented from finishing by the crowd. In the final Ellegaard, the Dane, finished first; Meyers, of Holland, second; Bixio, the Italian, third, and Grogna, of Belgium, fourth. At the finish Ellegaard received a great ovation. Distance, 200 metres.

In the match race between the professional and amateur champions, at 200 metres, Ellegaard led all the way and won easily. Piard finished a length to the bad. The consolation race was won by Rutt, Ferrari second, Fortuna third and Aegerter fourth. Two preliminary heats were run. The King of Italy viewed the races and displayed considerable interest in the motor bicycle, an exhibition ride being arranged on the spot for his benefit.

Since the foundation of the championships, in 1893, the following names have been added to the list of world's champions: Zimmerman (amateur), 1893; Lehr (amateur), 1894; Protin (professional), 1895; Bourrillon (professional), 1896; Arend (professional), 1897; Paul Albert (amateur), 1898; Summersgill (amateur), 1899; Jacquelin (professional), 1900; Ellegaard (professional), 1901; Ellegaard (professional), 1902. Ellegaard's name is the only one to be inscribed twice on the triumphal list.

Walthour beat Caldwell five laps in a twenty mile paced race at Hartford on June 27. Walthour was paced by a 9 horsepower motor and Caldwell by a 4 horsepower. In the fifth lap of the third mile Walthour gained a lap. The time for five miles was 7:22. In the eighth mile the rear tire on Walthour's wheel flattened, and he had to have a remount. In doing this Caldwell gained three laps, but did not get the lead. For ten miles the time was 15:32 1-5, and Walthour had a lead of six laps. During the twelfth mile Caldwell changed his pace from tandem to single, and from then on it was nip and tuck to the finish. Walthour won the race by five laps in 31:16. Carl Rudin on a motor bicycle broke the track record for the mile, doing the half in 40 2-5 seconds. The track record was established two years ago by Henshaw and Hedstrom, and was covered in 1:28 4-5; Rudin cut seven seconds from these figures.

Again, at Revere on June 28, Walthour

won a very closely contested one hour motor paced race from McLean and Butler by a quarter of a lap. The race was a fight from the start to the finish between Walthour and McLean, Butler at no time being a factor. McLean got the lead, and Walthour repeatedly tried to pass him, but in vain, until the twenty-eighth mile. Walthour's chain broke just as the gun sounded announcing that three more minutes were left, and McLean almost gained the three laps separating the two; but Walthour, mounting a new machine, rode in a leader. The distances of Walthour and McLean are as follows: Walthour, 39 miles 6½ laps; McLean, 39 miles 6¼ laps.

It is not putting it too strongly to say that the entry list for the Metropole Cycling Club's invitation race meet at Manhattan Beach on Saturday has got other race promoters guessing. They are wondering how the Metropole men drew out such a gigantic entry—more than 200 individuals, the greatest number ever booked for a cycle meet in many years; 167 of the entrants are amateurs, including Champion Hurley, of course. As last Saturday's meet on the Beach track attracted but 23 amateurs, the impressiveness of next Saturday's function is apparent; and with admission by invitation, and reserved seats at 25 cents, every indication points to a record breaking event in the matter of attendance as well. The fact that that rare old bird "Bill" Martin will make his reappearance before his countrymen after several years' absence abroad, during which he developed into a champion, will add spice to the racing, and with Beauchamp, the Australian crack, and Iver Lawson also entered, the Metropole sweepstakes, in which Champion Kramer will likewise ride, should prove a hair raiser. For the twenty mile paced race Freeman has been released at his request, and Hall, Gus Lawson and Munroe will make the fight.

The Powers-Kennedy combination opened the metropolitan racing season at Manhattan Beach on Saturday last with a programme that will require a Metropole meet to remove the wry taste it left in the public mouth. But one event, the twenty mile paced race, was worthy of notice, and that was a runaway victory for Champion, who completed the distance in 29:45 4-5. Freeman, Hall and Munroe were the other contestants, and finished as named, their positions remaining unchanged throughout. Of three amateur events, in which the fields were small, the five mile lap race, won by Lewis Bennett, of Asbury Park, in 11:38 2-5, was the only one to furnish excitement. A motor bicycle race between three third rate pros. was won by J. De Rosier in 1:32 1-5.

Despite the King's illness, Ottawa, Can., held a "coronation meet" on June 28, at which Americans captured all of the honors. Marcus Hurley beat Billington in the mile open for amateurs, and was in turn unexpectedly defeated by George Glasson, of

Newark, N. J., in a mile match paced by motor bicycles. Billington also placed a first to his credit in a pursuit race with George Wiley. The team race, four men a side, between the New York and All Canada Athletic Clubs, on Saturday night, was won by New York by 21 points to 10. The New York team was composed of G. Glasson, W. Smith, T. Billington and M. L. Hurley. The professional event of the day was a mile match race between Bald and Kimble, Kimble winning.

Iver Lawson made his first appearance since his return from abroad at New Haven on July 1. Bill Martin and Jean Beauchamp also started, but the best any of the lot could do was a fourth, which fell to Lawson. Collett again defended his title by capturing the five mile professional event by a foot from Rutz. The five mile professional handicap was won by Alexander (85 yards), time 1:07; Williams (120 yards), second; Schreiber (70 yards), third; Jacobson (40 yards), fourth. The two mile amateur handicap was won by Walter Haggerty (70 yards), time 4:36; E. Stander (scratch), second; G. P. Linley, third; W. Brandt, fourth. In the five mile open professional Collett finished first in 11:20 4-5, which is a record for an unpaced race in Connecticut; Rutz, second; Schreiber, third; Lawson, fourth.

At the Velodrome track, Paris, France, on June 20, in a match race, Taylor easily defeated Ellegaard, the great Dane who on June 15 at Rome won the championship of the world. In the first heat of 1,000 metres Ellegaard took the lead, with Taylor at his rear wheel. He did not remain long in this position, however; gradually drawing away, he finished three lengths ahead of Ellegaard, to the surprise of the spectators, who were almost stupefied at the ease with which Taylor defeated the champion. In the second heat of 900 metres Taylor took the lead at the start, and, although Ellegaard made strenuous efforts to pass his rival, Taylor finally won by a length and a half.

Harry Caldwell easily defeated Joe Nelson in two straight heats of a ten mile paced race at Worcester on June 25. Both appeared to be out of condition, and there was no effort at fast time. In the first heat Nelson got away well in the lead, but at the fifth mile Caldwell went to the front and gained half a lap, which he held to the finish. Caldwell's time was 16:10 3-5. In the second heat Caldwell led from the start, riding the first mile in 1:31 2-5. At the finish Caldwell was a mile ahead of Nelson, who did not finish. Time, 16:47.

At Atlantic City on July 1 the big event was a five mile race in heats between W. S. Fenn and W. F. King and James Hunter and Johnny Lake. Fenn won from King by 2½ laps in 7:30 4-5, and Hunter, owing to a mishap to his opponent's motor, took the second heat from Lake by 3½ laps in 7:59 1-5. King won from Lake after the latter seemed a sure winner in the heat to decide the

awards for third and fourth place, and in the final heat, between Fenn and Hunter, winners of the first two events, Fenn won a very close race.

Elkes in an exciting contest defeated Stinson by one-third of a mile at Providence on June 25 in a twenty mile paced race. Time for the twenty miles, 30:12 3-5. The men were started from opposite sides of the track. On the second mile Elkes caught Stinson, and in the third endeavored to go by, but failed. Up to the twelfth mile it was a seesaw, neither man gaining an advantage. From the twelfth mile to the finish Elkes succeeded in gaining two laps.

Butler took the place of Elkes, who was scheduled to meet Walthour at Springfield on June 26, and was defeated by the latter rider by $1\frac{1}{4}$ laps in a twenty mile paced race. Butler was handicapped by being obliged to follow a 4 horsepower motor, while Walthour rode behind one of 9 horsepower. The latter finished in 31:47 3-5, which establishes a new track record, the former record of 32:09 having been made by Nelson last August.

The Paris sporting crowd have suddenly developed a new craze for motor bicycle contests, an impetus have been given by the track managers of that city. As an instance it may be mentioned that one of the best races won by Demester, who rode the distance of 10 kilometres ($6\frac{1}{4}$ miles) in 7 minutes 34 2-5 seconds, which equals 51 miles an hour.

Leander won best two out of three in the three cornered paced race at Atlantic City on June 28 against Hunter and Lake. The last heat was run shortly before midnight, the pacers giving out several times. In the first heat, ten miles, Hunter won, time 16:42 1-5; second heat, ten miles, Leander won, 16:03 4-5; third heat, three miles for place, Leander won, time 4:58.

Ben Munroe easily took Leander's measure at Pittsburg on Tuesday night. After being thrown on the second mile of the first heat he placed the other two to his credit in convincing fashion, and in fast time, 14:58 2-5 and 14:53, respectively. The heats were, of course, of ten miles. Munroe reeled off one mile in 1:21 3-5.

At Lyon, France, on June 21 Major Taylor further distinguished himself by winning the final in the 1,000 metre professional handicap from scratch in the record time of 1:11; Marion, second; Millé, third. In the match race, paced, with Lambrechts, Taylor easily won both heats at 1,000 and 5,000 metres.

At Providence on June 27 McLean defeated Basil de Guichard by $2\frac{1}{2}$ laps in a twenty-five mile paced race. Up to the fifteenth mile the miles were slightly under the State records. The first mile was made in 1:23 1-5. McLean's time for the distance was 37:20.

At the Crystal Palace track, London, on June 20, G. A. Barnes brought the one-mile

flying start motor bicycle record to 1 minute 35 2-5 seconds. This reduces by a second the record held by G. V. Rogers. Barnes was mounted on a 2 h. p. Mitchell.

The Frenchmen who still retain a warm affection for Zimmerman have finally induced the ex-champion to emerge from retirement. He has signed to engage in exhibition rides in Paris, but will not sail until September.

At Salt Lake City on June 28 W. E. Samuelson rode a half mile, unpaced, in 52 3-5 seconds. If this time is substantiated it breaks the best previous world's record of 55 2-5 seconds, held by Major Taylor.

In a ten mile paced heat race at Washington on June 26 Leander defeated King in two straight heats. The first heat was run in 15:29 and the second in 15:23 2-5.



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

Misuse of Emery on Motors.

Attention has before been called in the *Bicycling World* to the value of good compression and some of the causes that destroy it. An incident noted on a recent run of a motorcycle club brought the matter up in a very direct manner.

It seems that one of the riders has been complaining of lost power almost from the time his machine was delivered to him, and some one told him his troubles were in the valve seats. Information was also given him how to grind in his valves with emery, but unfortunately the fineness of the emery to be used was not stated.

As a result he has been using emery so coarse and so often that the valve seats have been worn away to a point that makes it necessary to tool out new seats if the motor is to be made good. Whether or not his real first troubles were from the valve seat it is now impossible to tell, but in any case the moral is that when the user of motor bicycles don't know it is not always a good thing to follow the first piece of advice that is given, even though it is well meant and sincere.

Three Men on a Tour.

F. H. Fulton, son of President H. H. Fulton of the Eclipse Mfg. Co.; J. E. Morrow, son of the inventor of the famous Morrow brake, and T. E. Moorehead were in New York last week.

The trio started from Elmira on bicycles, going to Binghamton, Oneonta, Albany and on to Boston by way of North Adams, Greenfield and Fitchburg. From Boston the route lay to Portland, Me., returning to Boston via Newburyport, and then on to New York by way of Worcester, Springfield, Hartford, New Haven and Bridgeport. From New York the party will return by wheel to Elmira. They report the trip a pleasant one, despite the fact that there is much to complain of regarding the New York State roads, which were found to be in wretched condition. A surprising fact is the number of fellow tourists they met, at least twenty-five being encountered who were also cycling across State. Mr. Morrow made a run from Worcester to Bridgeport, a distance of 143 miles, in one day, starting from Worcester at 2 o'clock in the morning and arriving in Bridgeport at 8 o'clock the same night. From Bridgeport he went to Philadelphia the next day, arriving there at 6 o'clock in the evening.

The total mileage covered so far exceeds 800 miles, which constitutes a pretty good trip in these days.

Defect of Chain Drive.

The defect of the ordinary chain drive is pointed out by a writer in a foreign contemporary in the following illustration: "Assume a driven sprocket wheel and an ordinary chain made to fit the sprockets. When the gear is started up the pitch lengthens, so that the chain no longer fits, this lengthening of the pitch, or stretch, being due to the following causes: The pins bed in their bearings, the stress on the chain stretches the material, which is, of course, elastic, and wear of the pins and of their bearings begins at once, and is a constantly increasing factor. Add to this the decrease in root diameter of the sprocket due to wear, and there is produced a wheel running with a chain that is too big for it. This means that one tooth alone is doing all the work at any given time, and that power is being lost."

Increase of German Ingenuity.

The German Patent Office has been twenty-five years in existence and its staff now consists of 117 trained officials. The income of the department has increased from \$100,000 to \$1,250,000, and the patent applications from 3,212, of which 190 were granted, to 25,165 applications in 1901, of which only 10,508 were granted; 38 per cent of the granted patents for 1901 went to foreign applicants, of which Great Britain counted for 7.9 and the United States for 9.7 per cent. Of the patents granted by foreign patent offices to German applicants England granted 40 and the United States 11 per cent.

THE SEVERAL SPIRITS

Being the Ones Used as Fuel—Their Various Names and Distinctions.

The term gasolene is a little indefinite when used by the trade. Technically it is the heaviest of the three petroleum ethers, its chief chemical constituent being pentane, C_5H_{12} , and is one of the lightest hydrocarbons produced by the distillation of petroleum.

What is known in this country as "stove gasolene" is technically known as the lightest of the three petroleum spirits which are distilled from crude petroleum after the petroleum ethers have been driven off and the temperature of the still increased. It is technically known as "C naphtha" and as "benzine-naphtha."

The following list is given on the authority of Mr. Boverton Redwood, and is quoted from his book on "Petroleum":

Petroleum Ether Cymogene	Gravity.	Hydrometer.
Rhigolene	Specific	Beaumé's
Gasolene	.625—.631	94—92
do Spirit C—Naphtha,	.635—.668	90—80
Benzine Naphtha	.682—.702	76—70
B—Naphtha	.716—.720	66—63
A—Naphtha Benzine	.743—.747	59—58
Kerosene, American	.782—.800	49—45
Russian	.822—.830	40—38

Gasolene of the American trade is commercially known as "stove gasolene," and is "74 degrees Beaume gasolene," although much of it runs to 70 degrees, or even to 68 degrees B.

Benzine, as will be perceived from the above list, is "A naphtha," and is sometimes divided into two grades, the heavier being from 58 degrees to 59 degrees B., and the lighter from 62 degrees to 65 degrees B. Benzolene is the same as benzine.

Petrole is the French name for petroleum.

Petrol is the French name for a certain hydrocarbon, which is obtained near Hanover, but whose use does not enter into the gas engine industry.

The New York Petroleum Exchange defines petroleum spirit as "naphtha shall be water-white and sweet and of gravity from 68 degrees to 73 degrees B." Petroleum spirit is already defined, its specific gravity

being between .679 and .7. There seem to be great objections to the use or handling of gasolene in foreign countries, hence difficulty is experienced in buying it.

Petrol, when used as an English word, usually signifies the same product of the distillation of petroleum as in this country is known as "benzine-naphtha" or "stove gasolene," being a lighter hydrocarbon than kerosene, of an average density of .68. It gives off inflammable vapor at any temperature above the freezing point. Much of it as found in England, is lighter and more inflammable than the gasolene used for similar purposes in this country.

The Retail Record.

Ashuelot, N. C.—C. J. McColley, opened store.
Brooklyn, N. Y.—James Bros. opened store
18th avenue, near 86th street.

Adams, Mass.—Kirkpatrick & Co., succeeds
M. J. Curran.

Aurora, Ill.—Frank Anderson succeeds Jacob
Eye.

San Diego, Cal.—T. S. Keller succeeds Frank
S. Ecker & Co.

Clinton, Ia.—J. G. Spohn succeeds Traut
Cycle Repair Co.

Corona, N. Y.—Alfred J. Butz sold out.

Delhi, N. Y.—W. E. Finch succeeds A. D.
McDougal.

Flushing, N. Y.—Fred Thurston succeeds
John Brown, Jr.

Tremont, O.—Croghan gun store succeeds
Seidel Bros.

Geneva, O.—Hugh S. Payne succeeds Frank
Dickinson.

Wellsboro, Pa.—Champaign & Son moved to
Watrous block.

Rochester, N. Y.—A. M. Zimbrich, 107 Main
street; fire; loss nominal.

Keokuk, Ia.—Arthur G. Francis, petition in
voluntary bankruptcy; debts \$1,718; assets, \$1,074.

Recent Incorporation.

Jersey City, N. J.—Interstate Ball Bearing
Co., capital \$1,000,000. Incorporators: Frank
W. G. Maack, Lionel C. F. Killian and
George White, jr.

WHAT HE WANTS

Innovations Which a Rider Desires but Which he Does not Hope to Obtain.

"I don't suppose my saying it will affect matters in the least, nor do I picture makers falling over one another getting into line, but I do wish that some of them would next year offer me a bicycle with two features, or talking pints, as we used to call them," remarked a friendly visitor who was once in the business, dropped out and is going to take up the bicycle again as a pastime, not for business. "These are a front fork construction that will let me take my front wheel out and put it in again without springing the forks, and a rear fork adjustment that will move the rear hub in parallel lines.

"I know that the front fork scheme has been tried and abandoned because of possible troubles from the wheel coming out of the open ended forks, on the road, if a nut was lost, but it seems to me that this could be satisfactorily arranged by some of the clever superintendents or designers in the business. I have in mind a washer with an upwardly extended tongue having a clip at its top to go around the fork side. This could be nickelled to give the fork end a finish and a little character. The clip could be a split affair, on the inside of the forks, where it would not show, with a small screw for locking it in place.

"The rear fork end scheme could be worked out, though, without any of the objections that might be urged regarding the front. I remember seeing a number of clever schemes in my time, but I guess the trouble was that the fellows who designed them didn't have the right connection. It must have been something of this sort, as the idea itself is good, and, as I said before, there were excellent schemes worked out to fit the idea. I suppose it is a forlorn hope, but here's hoping, just the same."

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

"BUFFALO AUTOMOBILES" ARE RAPIDLY GROWING IN FAVOR.

BUFFALO TONNEAU.



Model 15. Price, \$900.
Model 7 (Tonneau Detached). Price, \$800.

REASONS WHY!

LONG WHEEL BASE. 6-BRAKE HORSE POWER MOTOR.

Easy riding.

LARGE LUGGAGE BOX. LARGE GASOLENE CAPACITY,
A boon to tourists. insuring long distance.

Model 16. TONNEAU CAR—Midgley wheels; 3 inch tires; fenders
and lamps, \$1000.

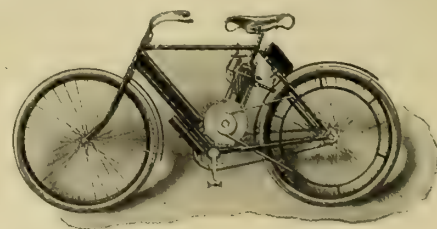
We are the only automobile manufacturers making a Touring Vehicle to carry
four persons for less than \$1500.
Model 16 embraces all features found on \$2000 cars.

E. R. THOMAS CELEBRATED WORLD'S RECORD MOTORS.

Buffalo Automobile & Auto-Bi Company,

1200 Niagara Street, BUFFALO, N. Y.

"AUTO-BI." Standard Motor Cycle.



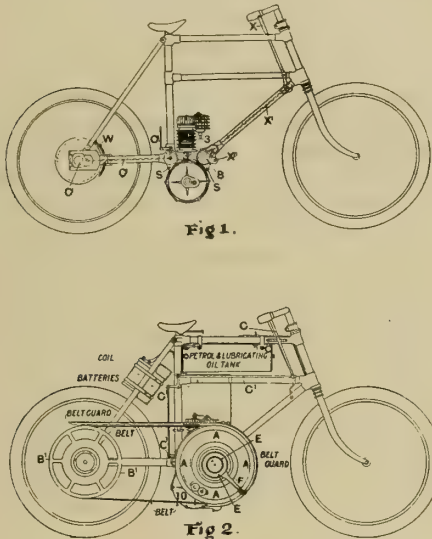
Model 4. Price, \$175.
" 3. " 150.

MADE WITH TWO SPEEDS

Details of the Mechanism Which Drives the Chapelle Motor Bicycle.

The subject of a two speed motor bicycle is always a fascinating one but in all the machines on the market it has only been aggressively tackled by the makers of the Chapelle. This bicycle has been frequently referred to in the *Bicycling World*, therefore the following detailed description will be of interest:

By figures 1, 2 and 3, it will be seen that the 1½ h. p. air cooled motor is set nearly in the middle of a strongly built frame just forward of the perpendicular down tube, being carried in a looped portion of the frame, marked 3" (figs. 1, 3 and 7), which for descriptive purposes will be referred to as



the motor bed-plate. The crank chamber 10, is further steadied by being bolted to the lugs, SS, depending from the frame members.

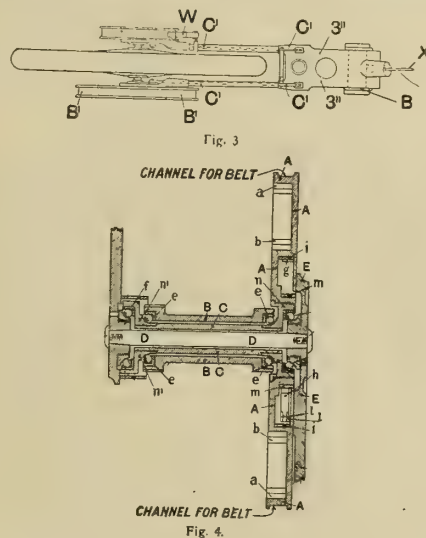
The cylinder is 66mm.=2.59-inch bore, and the piston has a stroke of 76 mm.=2.99-inch. The engine runs at from 1,400 to 2,000 revolutions per minute. The drive of the engine is conveyed through the gearing hereafter referred to as the outer flanged rim of the driving belt pulley A A A A (figs. 2, 4, and 5), and thence by a flat leather belt to the driven drum B1 (figs 2 and 3) attached to the axle of the road driving wheel. This axle is carried in blocks which slide together fore and aft in the jaws of the back forks just as does the back wheel axle of a motorless bicycle when it is desired to take up the slack of the chain. The sliding blocks carrying the road driving wheel axle are connected by the rods and bell cranks C1 C1 C1 C1 (figs 1, 2 and 3) to the belt-tightening lecer C (fig. 2), which is centered at its lower end, and is held in a rack shown on the side of the top tube of the bicycle frame in fig. 2.

By pushing this lever from or drawing it to him, the rider can vary the distance be-

tween the centres of the driving brake drum A A A A (figs. 2, 4 and 5) and the road driven belt, as he desires. This belt serves the dual purpose of driving the back wheel either from the engine or the pedal cranks.

By referring to fig. 4 it will be an easy matter to follow the means by which the drive of the motor is conveyed to the road wheel at either the high or the low speeds. By carefully following the crosshatching of the driving belt pulley A A A A fig. 4), it will be seen that this is a circular disc having on its outer periphery a flanged channel to take the driving belt, while an internally of the overhang is fitted an internally-toothed ring or wheel A.

Following the web of the driving pulley downwards it will be seen that it presently juts inwards again at right angles, and that the outer portion of this face is also provided with a toothed ring b, while within the outer dish made by the right-angled



lower return is set the band clutch i i (fig. 4) and i i l fig. 6.) The purpose of this clutch is explained later.

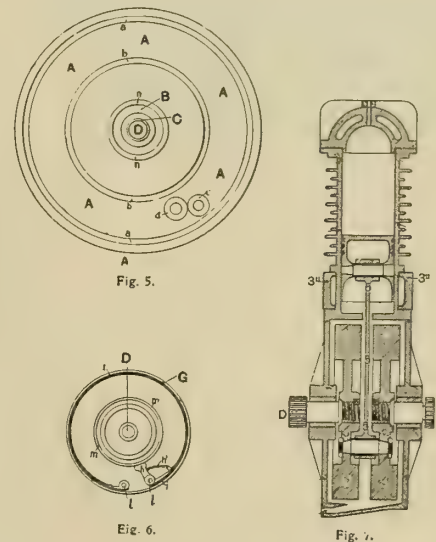
This driving belt pulley A A A A, with its flanged channel for the belt, its inner and outer toothed peripheries a and b, and its outward cavity accommodating the internal clutch drum i i, crank band clutch l l, and locking pawl h, is screwed tightly on to ball bearing coned collar n n (figs. 4, 5 and 6).

This ball bearing coned collar is, with its equal n1 n1 on other side, shrunk on to the hub or sleeve C, in which the pedal spindle D runs, and which C runs in its turn on the ball bearings in crank bracket B B (figs. 4 and 5). The crank bracket carrying centrally, as it does, the pedal crank spindle D D and the hub or sleeve C, upon which the driving belt pulley is mounted, is supported and carried by two lugs that on the right hand side of the machine frame being shown hinged at X" in fig. 1.

In the same figure the bracket is seen to be connected to the gear striking lever X by the rod X' shown in dotted lines, where it passes through the bottom tube of the bicycle frame. When this gear lever X is pushed from or drawn toward the rider it

will be realized that the crank bracket B is caused to move up and down in a small arc of a circle the centre of which is X". It is this small radial upward and downward movement of the crank bracket B, carrying with it the driving belt pulley A A A A (figs. 2, 4 and 5), which allows the rider to throw in high or low speeds at will, or to disconnect his motor from the driving gear altogether.

To follow this we must turn to figs. 4 and 5. When the gear lever X (fig. 1) is thrust right forward the crank bracket B, of course, with the driving belt pulley A A A A, is depressed, and the outer toothed periphery b of the latter is brought into mesh with the motor pinion c, and the high speed is obtained. When the gear lever X is drawn toward the rider as far as it will come, the crank bracket is raised and the inner toothed periphery a of the belt drum A A A A is brought into mesh with the pinion d, and the



low speed is obtained. But when the gear lever a is placed in mid position the crank bracket B is so held that neither pinion c nor pinion d mesh with either the toothed ring a or b, and the engine is free, as in fig. 2. A sector with suitable slots is placed on the right of the top tube to hold the gear changing lever X' securely in either of the three positions. To grasp this more easily the rider must realize that the motor pinion c and its companion pinion d are thrust in the space between b and a (lower half) of A A A A (figs. 4 and 5).

It now remains to be explained how the machine is driven from the pedals when desired. In describing the construction of driving belt pulley A A A A we have already referred to the internal clutch drum i i (fig. 4), the crank band clutch g g, the clutch pawl h and the crank flange E E. But for the connection set up between the cranks and their spindle, and the crank flange E E and the crank band clutch g g with the driving belt drum A A A A through the clutch pawl h when the cranks are rotated forward, the cranks and crank spindle are free to move independently of driving wheel drum A A A A, and so a free wheel, or, rather,

free or stationary cranks are obtained when the machine is running.

But such connection is, of course, necessary when it is desired to start the bicycle, which is done by pedalling, and for this purpose the crank flange E E is provided with two internally projecting studs (not shown) which fit into the eyes l l of the crank band clutch i i (fig. 6). Thus when the cranks are rotated forward by the feet the crank flange E E by means of its studs in the eyes l l carries with it the crank band clutch i i. The pawl h at once jams between the surfaces m and i, and, this being locked, the pressure from the crank flange on the opposite eye of the band causes the latter to bind on the whole internal surface of the ring m (figs. 4 and 5), and the driving belt pulley A A A is rotated on the hub or sleeve bearings e e e e (fig. 4). Thus the driving movement is conveyed by the leather belt to the road driving wheel through the driven belt drum B l (fig. 1), and the bicycle is propelled. So soon as the pedalling ceases, the pawl h is released and the cranks become free. In starting the machine on the road it is, of course, first pedalled forward, and the low gear then thrown into mesh in the manner described above. It should be mentioned that when the belt is loosened by the actuation of the lever C (fig. 2) the brake W (fig. 1) is by the same action applied to the brake drum F.

Protecting Wire Connections.

To protect the wire connection on motor bicycles from grease and dirt the following painting mixture is recommended:

In a small bottle place some pieces of ordinary sealing wax broken up small. Fill up the bottle with methylated spirits, which will dissolve the wax in a few hours. Give an occasional shake to the bottle. If when dissolved the wax appears too thin either add more wax or leave the bottle uncorked for a while. Add a small quantity of linseed oil and mix by well shaking. Apply with a brush to the well-cleaned terminal. There is no fear of the wax breaking away if the oil be added to the wax.

A New Aluminum Alloy.

To all interested in the mechanical arts the appearance of a new alloy of whatever metals and having some distinct advantages should be a matter of interest.

A writer in the Aluminum World has been experimenting with an alloy in which a German silver alloy consisting of copper 57 per cent, nickel 20 per cent and zinc 20 per cent had mixed with it a proportion of 3 per cent of aluminum. The result was a metal which would run freely, filling the molds where otherwise the German silver alloy ran sluggishly and developed "cold shuts."

This metal he describes as of very great toughness and extreme whiteness, being slightly whiter than pure nickel. It will take a high polish, and does not tarnish, while it may very easily be nickel plated, the latter covering when it does wear off leaving a bright surface hardly distinguishable from the surrounding nickel surface.

The proportion of the alloy named will give a metal which is quite stiff and hard, but which will bend slightly if occasion demands it. It is possible that such an alloy would be a valuable metal to use in many cycle and motor mechanisms.

The ease with which the metal is cast, the clean surface with which it leaves the sand molds, and its ready adaptability to all the machinery and polishing processes should make it a valuable metal in many cases. It must not be thought that it is in any way a light metal, its specific gravity being practically the same as that of ordinary German silver.

The writer of the article in question has used the metal to a great extent in the manufacture of such parts of typewriters as have constant handling, such as the space and line levers. For such parts its advantages are shown chiefly in its untarnishable and uncorrosive nature, while its durability for such purposes has been proved to be quite equal to that of other metals, such as plated brass or steel.

In casting it the writer points out that it is advisable to put the nickel and copper in the crucible together and cover well with charcoal. When the metal begins to melt more charcoal should be added and the metal well covered with it. When the copper and nickel have melted the aluminum should be added. It is not necessary to push the aluminum down under the molten metal, but simply put it in the crucible, for its specific gravity will bring it on the surface. In a few seconds the aluminum will melt.

At this point is one of the peculiar features of the alloy. The temperature of the melted metal immediately rises to a white heat; and if the copper and nickel were at a bright red heat before the aluminum was introduced the temperature would rise to incandescence. For this reason it is much preferable to have the copper and nickel just barely melted. The writer points out that this phenomenon of the enormous rise in temperature is caused by the affinity of aluminum for the copper and nickel, and for this reason the aluminum should invariably be added before the spelter.

After the aluminum has been added and the mass stirred the temperature of the metal is always too high to add the spelter. It is necessary to decrease the temperature of the molten metal before adding the spelter. The best way to do this is to add sprues of the same material, which, of course, immediately reduces the temperature to the proper amount.

It will thus be seen that the new alloy adds nothing to the difficulty of casting—indeed, it facilitates the running of the metal into the molds and conduces to better and sounder castings. It may be presumed, therefore, that its use may be found advantageous in a variety of ways in the motor and cycle industry.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

This is not the great oak which from the little acorn grew, but



is the OAK SADDLE, and a great saddle it is, too.

Are you posted about saddle greatness?

NEWARK CYCLE SPECIALTY COMPANY, Newark, N. J.

WHEELER'S EXPERIENCE

Uses Unusual Gears on the Bicycle That Will Stand Them and Reports Results.

Pomona, Cal., June, 1902.

The Miami Cycle and Mfg. Co., Middletown, Ohio:

Gentlemen: Possibly you may have heard through some of your agents whom I saw on my recent trip to San Francisco and return that I made the journey up there with my 1902 Pacemaker geared to 160 inches without any more trouble than the riders of other makes geared only half as high experienced in the Salinas Valley on account of the high winds, which are literally gales, and make a pace of four miles an hour all one can do without the greatest exertion. You may remember my writing two years ago when I rode to San Francisco and back with 124-inch gear, that a rider came into Salinas the same night on a wheel geared to 77 inches, and said he had made only four miles an hour all the afternoon. I had done the same with 124-inch gear. This year, while taking it more leisurely, and making my trip more one of pleasure than ever before, my riding time averaged just as good with 160-inch gear as it did two years ago with 124-inch gear.

In its class I consider this a "world's record," for I don't believe a practical tour of over 600 miles was ever made before on a bicycle geared to 160 inches, and averaging for my riding time about 100 miles a day, and going up to San Francisco in same time as two years ago with 124-inch gear, and doing it more leisurely and comfortably. Of course, I may be a little better rider than on that trip. I made the trip alone, the young man who was going to start a day ahead of me with a motorcycle having trouble with his engine, and not starting at all, so I found myself in San Francisco first, after all.

Returning, I changed to 112-inch gear, and made an attempt to lower the coast record—San Francisco to Los Angeles—(E. O. Kragness, Olympic Club, San Francisco, in July, 1898—2 days 14 hours). I had bought of your agent in San Jose a "White Star" lamp as being the best lamp made. I had ridden 170 miles by dark the first day and had eight hours more to my full day. The lamp burned only three hours, and I had to quit at 200 miles. I think, if the lamp had burned seven or eight hours, I should have made 250 miles (which would have been the coast record for 24 hours) and thus obtained such a good start in first day that my chances for lowering the record would have been good. Certainly, I should have been ahead of Kragness's time at Santa Maria—more than half way to Los Angeles. As it was I reached Santa Maria less than an hour behind his time. He was in the prime of youth; best road rider on coast; had special training, and all the pacing needed. I am forty-seven years old; had no special train-

ing, and rode unpaced all the way. However, the roads became so bad after Santa Maria I gave it up. I did easily what I did do. Pretty fair for an old fellow, was it not?

Glad to learn of your great sales this year.

H. H. WHEELER.

P. S.—I forgot to say that yesterday afternoon I put on the sixth tooth sprocket, which the Cinch makers sent me, and with 187-inch gear rode about thirty-five miles in three and a half hours, against our afternoon wind and up whatever hills came, and without a dismount both ways—going and returning—and wound up by riding two miles up grade steadily from Pomona to my place. I did this without any special effort, but I don't want much more of 187-inch gear. However, I believe I will try to make a "century" in eight hours with it before I hang it up on its nail for good.

I think I wrote that I had climbed a hill in South Pasadena with 160-inch gear, which is too much for most good riders with 92-inch gear on other wheels.

My 1902 model stood the trip just like my old one—perfectly.

HENRY H. WHEELER. ***

Opinion From Up State.

This is the way an upstate journal sizes up the cycle situation:

"Twelve years ago the safety bicycle came into common use. Everybody is familiar with the rapid increase in the popularity of the wheel since that time. Three or four years ago the wheeling fad was at its height, and the manufacture and sale of bicycles had reached enormous proportions.

"The life of the average bicycle extends over several years, and, naturally, at the rate that bicycles were being made and sold the people would soon be pretty well supplied. That time has come, and at present the demand for bicycles has become as steady as that for carriages or wagons.

"But, as in every business, no matter how long established, fluctuations may still be expected in the bicycle trade. Bicycle dealers vouch for the theory that every other year is an 'off' year in the bicycle business. Possibly the business is overdone one year, or else a season's hard riding takes the edge off of the general interest in wheeling, and consequently there is somewhat of a lull in the business the succeeding year. But it always picks up with the alternate season.

"This year is certainly an 'on' year, and the wheels which were out of commission last season are now being put in shape for the hard season before them."

Through Sleeping Car Line to Grand Rapids, Mich.

A Pullman Sleeping Car of latest construction is now attached to New York Central train leaving Grand Central Station at 4:00 p. m., daily, running through over the Michigan Central, arriving at Grand Rapids at 12:55 p. m., next day, connecting in Union Station for all points in Western Michigan. For information and sleeping car reservations inquire of New York Central Agents.

THE KING OF SADDLES.



ITS CROWN

was not handed down
by predecessors, but was
earned by ten years of
increasing endeavor and
effort to produce the very
best saddle possible to
produce.

PERSONS MFG. COMPANY,

C. A. PERSONS, Pres't,

WORCESTER, MASS.

THE THREE C'S OF CREDIT

What They are and how They Bear—Why Credit is Necessary.

In lower Broadway there stands a substantial building in which is housed a business which is a monument to the extraordinary sagacity and the indomitable energy of its founder.

After two failures, its proprietor furnished the world with one of the most striking of all phenomena recorded in the history of commerce. His failure in one instance having been due to the abuse of the credit system, and in the other to an unwise partnership, he naturally sought, in making the third venture, to avoid the perils which he had encountered in his previous experience. At one time "Cash before delivery" was his theory. It is a striking fact, however, writes J. Norman Wills, that the succeeding years saw the principle of credit applied more largely to his business, until now the concern offers credit to all applicants who will meet certain simple conditions. These conditions, though simple, nevertheless form a more satisfactory basis of credit than many of our jobbers may hope to adopt. The applicant who wishes to "run an account" is required to give good security and, further, to confine his demands for credit to an amount that is determined by the capital invested and the weekly returns to the house, which thus recognizes the fact that credit is an indispensable factor in commercial transactions.

There have always been some honest souls who have had a "holy horror" of debt in every form. The credit system has been charged with being productive of more evil than any other source of man's misfortunes and misery. They attribute the existence of credit to a desire on the part of many to live beyond their means, or to an undue haste to become rich, and an unwillingness to be content with resources already at hand. The credit system, however, is like almost everything else—it is subject to abuses, and when abused must bring misfortune. Properly employed, however, credit is a great aid to industrial development, a fact which becomes more apparent as we observe the progress of civilization.

Credit has been defined as the power to make use of another man's wealth, resting upon the fact that when one has more wealth than he proposes to use himself he is ready, for a consideration, to lend it to another. While it may be for either production or consumption, the great function of credit in modern industry is to furnish the means for production to those who may be possessed of energy and ability but who lack capital. It is based upon the eternal fact that men are dependent upon one another, and that "no man liveth to himself." It is the same principle as that which is demonstrated when a large land owner leases a

portion of his estate to tenants, who are to pay him a certain percentage of their crops. The large money holder lends to other producers a certain part of his wealth, that part which he is not able to employ himself actively, for purposes of production, and these borrowers agree to return it to him at a stipulated time, with a consideration for its use. The large holder of goods lends to others portions of his stock, for which they are to pay him in current money at the end of a stipulated time, with a consideration for the use thereof, that consideration being the profit allowed in the selling price. The true function of credit is to furnish to producers a means for making or enlarging their production.

Credit, of course, is often used as a means of convenience, illustrated in the running of a monthly account at a retail store. It has been claimed that sixty days' credit was originally granted when transportation was slow, to allow the merchant time to receive and examine his goods. Likewise a credit transaction now frequently means merely time enough to allow the purchaser to receive and examine his goods, when he remits less the cash discount. The fact, however, that he has the option of longer time and that the goods are sent him on trust, places these transactions properly in the range of credit.

The history of credit would be extremely interesting were the material at hand which would enable the recorder to compile it. We may believe that the first credit transaction took place at very near the time of man's creation. One is led to wonder, therefore, that it was seemingly unknown in cultured Egypt at the time that Joseph, whom we have all heard felicitously referred to as the "first jobber," was distributing the accumulations of the storehouses of Egypt to the famine stricken people. We would have supposed when the cash gave out that he would have sold on credit and taken a mortgage on lands.

There are represented in an association of jobbers whose combined annual sales may be estimated at \$15,000,000, at the very lowest, and I think it safe to say that not 5 per cent of this business is done for cash, counting cash transactions as those in which money is passed at or before the time of delivering the goods.

It is important, then, that we find the true basis of credit. I can think of no better way of expressing it than the one employed by Mr. Boocock, of the National Association of Credit Men, who in his address before this association a few years ago quoted Mr. James G. Cannon, of the Fourth National Bank of New York City, as saying that the true foundation of all credit is Character, Capacity and Capital, and the greatest of these is character. It is indeed pleasant to exalt character, for if we appreciate mankind we must appreciate character, which may be defined as being what a man actually is. If we believe only, with Herbert Spencer, that we are at all times in

the presence of an Eternal Energy, then we can regard character as a manifestation of that Eternal Energy; but if we have learned to see in that Eternal Energy a loving Father and to regard ourselves as His children, and all men as brothers, then we can truly exalt character, for it partakes of the Divine. But, confronted as we are with every day conditions, having to deal with men who, too frequently, suggest anything but the Divine, we must consider character in its proper relation to those other features which play an important part in every commercial transaction.

If credit is that by which one makes use of another's wealth for purposes of production, is not the true basis of credit his productive ability? His integrity of purpose must, of course, be assured, and a certain degree of capital is essential in almost every instance to one's having ability to produce. I take it, therefore, that when we have satisfied ourselves that the applicant for credit is possessed of integrity, and has fair prospects of success by reason of the amount of capital contributed by himself, his business ability and a suitable environment, that we may conclude that he offers the proper basis upon which any member of this association may extend credit.

The basis of credit recognized by the merchant and the one adopted by the banker are supposed to be quite different. The merchant will credit a customer for goods to the value of \$50, representing perhaps \$40 cash, which he has actually paid out. Yet if that same customer were to apply to him for a loan of \$40 cash he would be met with a positive refusal. Is this right? Should we intrust to a customer that which has cost us actual cash while at the same time we would not lend him money? While upon the first thought we might answer, "No," yet upon further consideration I believe we must conclude that it is entirely reasonable that we do so, and that, too, though a regular banker, engaged in the money lending business, would likewise refuse to loan the cash. The profit of the merchant is, of course, in excess of that allowed the banker, who must base his loans upon 6 per cent per annum. The request for credit for goods to the amount of \$50 is entirely reasonable and legitimate, while the request for a loan of that amount might not be a reasonable requirement. The fact that the merchant solicits his orders while borrowers solicit loans in many instances will account for the difference of standard, though it not infrequently happens that the banker likewise becomes a solicitor when his surplus is large or a desirable account is being sought.

Finally, to the credit man, do not be over-cautious. There is more money made in jobbing, where bills are as a rule small, by taking risks than by shunning them too carefully. The credit man who is careful in his investigations and diligent in following up each transaction, may safely hope to show a minimum account of business lost on account of orders turned down, and at the same time a minimum loss account when he makes up his annual statement.

The Week's Patents.

702,948. Belt, Rope or Chain Gearing. Edmund H. Hodgkinson, Middlesex County, England. Filed Nov. 7, 1901. Serial No. 81,451. (No model.)

Claim.—1. The combination of a driving-wheel, means for operating it, a wheel to be driven, chain-pinions of different sizes connected with one of said wheels, a chain engaging with the pinions, a chain-lifter, means for turning the chain-lifter downward during the first part of its motion, and means for shifting the pinions.

702,976. Bicycle. Eli W. Lymburner, Warner, Canada. Filed Sept. 25, 1901. Serial No. 76,441. (No model.)

Claim.—In a bicycle, a seat-post tube open at its upper end, a hollow seat-post extending in said tube and adjustably secured to the upper end of the tube, a piston, an adjustable rod connecting the piston with the post, air-apertures in the lower end of the post and a flexible tube connected to the lower end of said seat-post tube and to a wheel-tire to inflate said tire with air, substantially as set forth.

702,992. Bicycle. Phil Pecor, Lena, Wis. Filed June 28, 1899. Serial No. 722,162. (No model.)

Claim.—In a bicycle, the combination with a crank-hanger, a central post secured thereto and a rear fork pivotally connected with the upper end of the central post, of rear stays, each secured at one end to the crank-hanger and at the other end to the rear fork, each of said stays comprising two aligned tubular sections screw-threaded internally at their inner ends, two screws entering the respective tubular sections, a cylindrical head from which the screws project in opposite directions, said head having a diameter equal to that of the tubular sections and disposed between the ends of the latter, a sleeve inclosing the cylindrical head and loosely embracing the adjacent ends of the tubular sections, a pin securing said tube to the cylindrical head, a rear wheel at the rear end of said sectional stays, a sprocket-wheel carried by said rear wheel, another sprocket-wheel mounted in the crank-hanger and a sprocket chain connecting said sprocket-wheels.

703,010. Bicycle Pump. De Wane B. Smith, Deerfield, N. Y. Filed May 11, 1899. Serial No. 716,355. (No model.)

Claim.—1. The combination in a bicycle pump of a cylinder, a foot or stirrup at the lower end of the cylinder, a plunger and operating-handle at the upper end of the cylinder, and a tube projecting laterally from the upper portion of the pump having an upwardly-opening end and a cushion tire connection held and supported by said projecting tube, substantially as set forth.

703,129. Bicycle. John B. Howe and Joseph J. Fernand, Danbury, Conn. Filed Feb. 24, 1898. Serial No. 671,498. (No model.)

Claim.—The combination with a frame, a rear axle and crank-arms on said rear axle, of a cylindrical crank-hanger box having an elongated extension, removable heads screwed into ends of said cylindrical casing and having bearing-cups on their inner faces, a crank-shaft passing through holes in the respective heads of the cylindrical casing, integral cones on said crank-shaft, balls between said cones and the bearing-cups on the removable heads, a gear-wheel on the crank-shaft within the casing, two gears in the extension of the cylindrical casing and meshing with each other, one of said gears meshing

with the gear-wheel in the cylindrical casing, bearings for balls secured to the extension of the casing, bearings for balls integral with said gears, cranks secured to one of said gears, cranks on the rear axle, and pitmen connecting said cranks.

703,029. Bicycle Repair-Spoke. Frank A. Wilske, Champaign, Ill. Filed Dec. 31, 1901. Serial No. 87,954. (No model.)

Claim.—The combination in a bicycle, of the wheel having a perforated spoke-retaining flange on its hub, and a rim; with a repair-spoke comprising a curved member adapted to be slipped through the perforation of the hub-flange, and a rod portion having a threaded socket on one end adapted to engage the threaded end of the flange-engaging member, and a tubular nut attached to the rim adapted to engage the outer threaded end of the rod, all substantially as and for the purpose set forth.

703,053. Bell for Cycles, &c. Clement Ford, Axminster, England. Filed Feb. 25, 1902. Serial No. 95,954. (No model.)

Claim.—1. The combination with a bell for cycles and the like, of an arm b secured to and extending from the exterior of the bell, a plate b provided to said arm at right angles therewith, said plate facing the usual finger-actuated button or thumb-piece of the bell, an elastic bulb c interposed between said plate and the button or thumb-piece afore-said and a tube-engaging piece at right angles to the plate b through which passes the rubber tube d connecting the bulb e with the hand-ball e, as specified.

703,228. Stowaway Mud-Guard for Velocipedes or the like. Charles W. Bluemel, Frank H. Bluemel, and Ernest A. Bluemel, London, England. Filed Mar. 3, 1902. Serial No. 96,473. (No model.)

Claim.—1. A cycle mud-guard made of celluloid and molded with a curvature in two directions at right angles so that it will roll up into a small compass and when unrolled projections on the stays passing through and locking with the perforations in the guard substantially as described.

703,280. Bicycle Stand. Louis H. Knoche, San Jose, Cal. Filed Jan. 3, 1902. Serial No. 88,295. (No model.)

Claim.—1. A bicycle stand comprising a base having a well or recess and a channel extended therefrom, a rod having members for engaging at opposite sides of a bicycle wheel and an upper portion for engaging with the upper part of the wheel, and a rod arranged in said well or recess, upon which the first-named rod is mounted, substantially as specified.

703,332. Bell. Philip C. Arnold, East Hampton, Conn., as assignor to the Bevin Brothers Manufacturing Company, East Hampton, Conn., a Corporation of Connecticut. Filed April 25, 1902. Serial No. 104,694. (No model.)

Claim.—1. A bell provided with a gong having a contact-lug formed integral with and struck out of the material of the gong.

2. In combination in a bell, a base-plate, striking mechanism, means for actuating said striking mechanism, a gong provided with a contact-lug formed integral with and struck out of the material of the gong and adapted to be engaged by the striking mechanism.



DE LONG Motorcycles

ALWAYS GIVE SATISFACTION.

There are no tanks or
bags attached to it.

FULLY PROTECTED BY PATENTS.



PRICE \$200.

INDUSTRIAL MACHINE CO.

SYRACUSE, N. Y.



HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

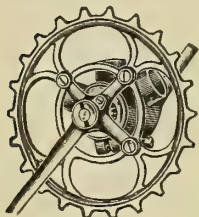
Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE of BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
423 Broome St., New York

**"D. & J." HANGERS**

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

—AND—
The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY
THE NATIONAL CEMENT & RUBBER MFG. COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN CHAIN

NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.**WANTS AND FOR SALE.**

15 cents per line of seven words, cash with order.

FOR SALE—Bicycle and Automobile business
Est. 1896, less than 50 miles from New York,
general repair shop with power, auto-Blue Book
station. Owner has other business, part cash bal-
ance notes. H., Bicycling World.

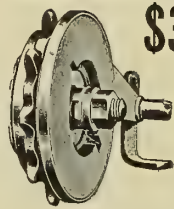
FOR SALE—Brand new latest model Marsh
Motorcycle, \$125. E. H. CORSON, New Eng-
land Agent for Merkel Motorcycle, 100 Boylston
St., Boston.

**ELWELL
EUROPEAN MOTOR CYCLE TOURS.**

England and France, August 20, 1902.

Great Britain and the Continent starts June, 1903.

F. A. ELWELL, 58 Prospect St., Waltham, Mass.

**\$3.00 Coaster Brake**

FITS ANY HUB.

Screws on in place of the
usual sprocket. Anyone can
apply it. For free booklet and
particulars, address

Canfield Brake Co., Corning, N. Y.

You all know what the diamond stands for among
precious stones. You can't well afford
not to know that

D-I-A-M-O-N-D-T-I-R-E-S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.**IDEAL HANDLE BARS**

made in all shapes with extensions in 2½ inches, 3½ inches and
5½ inches forward throw. Also with straight stems with and
without internal binders. The cheapest bar on earth, quality
considered. Sole manufacturers

IDEAL PLATING CO.,

3 Appleton Street, BOSTON, MASS.

ALL ROADS ARE EASY WHEN THE

**STAR
BALL
RETAINER**

IS USED.

With millions in daily use, it has stood the test for
more than five years, and is adaptable to ball bearings of
any kind.

If you are users of ball bearings we would be pleased to hear
from you and mail you our catalog with the latest information,
which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

REGAL BICYCLES.**STEARNS BICYCLE AGENCY,**General Distributors,
SYRACUSE, N. Y.**TO THE LIVE DEALER**

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

.....

The Only Tires Fit For Motor Bicycles— GOODYEAR DETACHABLES

GOODYEAR TIRE & RUBBER CO., AKRON, OHIO

WYOMA Coaster Brakes.

UNIVERSAL AND DETACHABLE.

We control following patents:

June 12, Aug. 14, Dec. 25, 1900,

Feb. 19, March 26, April 1, 1901,

covering all features of construction of these
brakes. We also control trade-mark "E. Z."
and will manufacture all brakes so stamped.

See issue of January 1st for description
and watch our Ad.

Reading Automobile & Gear Co.,
Tenth and Exeter Sts., READING, PA.

"PERFECT"

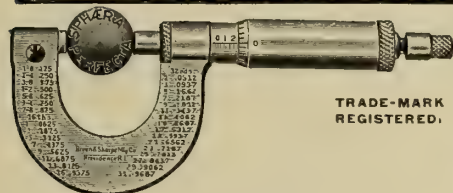


OILER.

For High Grade Bicycles. The best and neatest Oiler in the
market. DOES NOT LEAK. The "PERFECT" is the
only Oiler that regulates the supply of oil to a drop. It is ab-
solutely unequalled. Price, 25 cents each.

We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK



TRADE-MARK
REGISTERED.

STEEL BALLS

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

- That every ball is a perfect sphere.
- That every ball is within 1-10,000 of an inch of exact size.
- That the balls are made of the best quality of true crucible tool steel.
- That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

The Week's Exports.

After a period of "offness" the cycle ex-
ports last week regained strength. England,
with \$7,000 worth, New Zealand \$5,700 and
Africa \$4,900, made up the large items, but
Japan, the Philippines, Germany and the
East and West Indies accounted for snug
purchases, as follows:

Antwerp—35 cases bicycle material, \$1,186.

Amsterdam—16 cases bicycles, \$450.

British East Indies—60 cases bicycles and
material, \$1,692.

Bremerhaven—2 cases bicycles, \$46.

British Guiana—5 cases bicycle material,
\$279.

British Possessions in Africa—158 cases bi-
cycles and material, \$4,882.

Bucharest—3 cases bicycle material, \$38.

Bremen—2 cases bicycles, \$80.

British West Indies—72 cases bicycles and
material, \$1,977.

China—15 cases bicycles and material, \$494.

Christiania—5 cases bicycles, \$179.

Cuba—4 cases bicycle material, \$485.

Danish West Indies—3 cases bicycles and
parts, \$65.

Dutch East Indies—2 cases bicycles and ma-
terial, \$335.

Exeter—2 cases bicycles, \$50.

Genoa—6 cases bicycles, \$127; 37 cases bi-
cycle material, \$1,323.

Glasgow—3 cases bicycles, \$90.

Ghent—1 case bicycles, \$65.

Helsingfors—2 cases bicycles, \$50.

Hamburg—53 cases bicycles, \$1,325; 15 cases
bicycle material, \$452.

Havre—77 cases bicycles, \$987; 58 cases bi-
cycle material, \$2,735.

Hayti—2 cases bicycles, \$17.

Japan—43 cases bicycles and material, \$2,069.

Korea—4 cases bicycles and material, \$150.

Lausanne—14 cases bicycles, \$400.

London—109 cases bicycles, \$1,885; 33 cases
bicycle material, \$1,162.

Liverpool—97 cases bicycles, \$2,216; 5 cases
bicycle material, \$225.

Malta—9 cases bicycles and parts, \$200.

Mexico—2 cases bicycles and material, \$25.

New Zealand—177 cases bicycles and ma-
terial, \$5,763.

Philippine Islands—26 cases bicycles and
material, \$2,675.

Rotterdam—12 cases bicycles, \$220; 18 cases
bicycle material, \$748.

Stockholm—51 cases bicycles, \$770.

Southampton—12 cases bicycle material,
\$1,427.

Turin—2 cases bicycles and parts, \$185.

U. S. of Colombia—2 cases bicycles and ma-
terial, \$45.

Wasa—4 cases bicycles, \$90.

DURING WARM WEATHER

cyclists are in a mood
to become interested
in anything that is
likely to add to their
comfort.

For that reason, the

CUSHION FRAME

affords wideawake
agents strong argu-
ment for making sales
during the dull sea-
son.

ARE YOU ALIVE TO THE FACT?

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

DEALERS.

WE CAN MAKE YOU IMMEDIATE SHIPMENTS IN

BICYCLES that retail at \$15 to \$20

If you are bothered in getting shipments
from factories, write us for
catalogues and samples.

PRICES RIGHT.

E. P. BLAKE CO., 57-59 Sudbury St., Boston, Mass.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburg
388 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.

THE BICYCLING WORLD

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines. A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.



The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, July 10, 1902.

No. 15

SEVEN MEN EARNED PERFECT SCORES

Boston-New York Endurance Contest the Biggest Event in Years and Proved an Eye-Opener—Awakened Great Interest in Motor Bicycles—The Men who Competed and how They Fared.

THE MEN AND MACHINES THAT WON THE AWARDS.

GOLD MEDALS.

GEORGE M. HOLLEY, Bradford, Pa., 2¼ h. p. HOLLEY.
GEORGE W. SHERMAN, Brooklyn, N. Y., 1¾ h. p. INDIAN.
N. P. BERNARD, Hartford, Conn., 2¼ h. p. COLUMBIA.

GEORGE M. HENDEE, Springfield, Mass., 1¾ h. p. INDIAN.
O. L. PICKARD, San Francisco, Cal., 1¾ h. p. INDIAN.
L. H. ROBERTS, Waltham, Mass., 3 h. p. ORIENT.
WILLIAM B. JAMESON, Waltham, Mass., 3 h. p. ORIENT.

BLUE RIBBONS.

W. T. MARSH, Brockton, Mass., 1¾ h. p. MARSH.

F. W. TUTTLE, Hartford, Conn., 2¼ h. p. CLEVELAND.

RED RIBBON.

EMIL HAFELFINGER, New York, N. Y., 1½ h. p. ROYAL.

YELLOW RIBBON.

JOE DOWNEY, Brockton, Mass., 1¾ h. p. MARSH.

It may now be said that the public and the motor bicycle are fairly well acquainted one with the other. While they have known each other in casual fashion for some little time, the formal introduction did not take place until the 4th and 5th of the current month.

The Metropole Cycling Club, of this city, played the part of introducer, and played it well. Its Boston-New York endurance run on those dates was the occasion of the introduction, and the trail of interest and publicity which the event created, and which radiated in every direction through the public prints, is ample evidence that the hopes of the promoters were more than justified.

The contest demonstrated thoroughly the practicability and reliability of the little self-propeller on give and take roads, under conditions both favorable and unfavorable, and as fully proved that the man is no less a factor than his machine. Skill and experience counted for much. It was a test full of accident, incident, instruction and color.

Of 32 entries, 31 started from Copley Square, Boston, on the morning of the 4th. The solitary non-starter was on the ground the night before, but for cause was then and there summarily discharged and his

bicycle taken from him by his employer, who also was in evidence. Frank Kellogg, of the Massachusetts Bicycle Club, was the starter who sent the men away in pairs at intervals of one minute. C. A. Persons was the first man to be given the word, at 8 o'clock sharp. H. J. Wherett, the last one, did not leave until 8:59, forty-three minutes behind his scheduled time of departure, and long after the crowd of spectators had frittered away. Of these spectators the most notable was Frank W. Weston, the "father of American cycling," who twenty-five years before had inaugurated the movement that introduced the then bicycle to the public and gave it the life, purpose and prominence that led ultimately to universal popularity and, in the natural process of evolution, to the motor bicycle.

As lined up the contestants made a picturesque gathering. There were tall men and short men, thin men and men not so thin, and one who came close to being fat, Jameson, of Waltham, short, stout and with a round, good natured face. It was their diversity of garb, however, that formed the picture. There were the Marshes in leather coats, caps and leggings; Seaman in a suit of blue "jumpers"; Beeber and Rogers in

military khaki; Holley wearing street clothes, a cap and a starched shirt and collar; Persons and Roberts in Norfolk blouses; others wearing ordinary bicycle costumes and caps, and one tall youngster, Burnham, of Waltham, attired as if for a ride around the block, street clothes, starched collar, flat brimmed straw hat and all; he even did not secure his long trousers with trouser clips.

This same Burnham was the character of the run. His conduct was as odd as his clothes. He apparently knew no one, and sought to make no acquaintances; he rarely spoke. But the boy knew how to handle a motor bicycle. On the first day he scored his 500 points with plenty of time to spare. He reached Hartford early, and as fresh as if he had ridden but 26 miles instead of 126, quietly deposited his machine in the control, and then disappeared and was seen by none until the next morning. His performance, coupled with his oddity of dress and action, was noised about, and overnight he became the wonder of the run. The Marsh contingent were in ecstasies, and were in a mood to "do the handsome" for the unknown. He was not seen again until the next morning, a few minutes before the start. He reached Meriden, still with a perfect score to his

credit, and there the "wonder" of two hours before developed a deep streak of chromatic yellow. He quit suddenly and without cause. His machine was working splendidly, and he himself said he was not tired, but no amount of persuasion could induce him to go a yard further. When his quitting became known the admiration of the day before quickly changed to curses of condemnation.

Most of the other contestants were made of sterner and less eccentric stuff. They pressed on until physical or mechanical troubles forced them to stop. Seaman, of Mineola, L. I., broke off his right crank and a portion of his crank shaft in starting, but nevertheless covered 81 miles before quitting. It was tire and coaster-brake troubles that caused most of the early retirements, Root

ensued with decreasing numbers at practically all of the succeeding controls.

Even before the contest started there were stories that the two men from the West, Beeber and Rogers, were subjects of solicitude on the part of not a few of the others. Beeber and Rogers came direct from the Mitchell factory, the last mentioned having only recently come from abroad, where he had earned a reputation by piling up not a few motor bicycle records. They had ridden over the course the reverse way, going from New York to Boston, and the experts from the other factories seemed to view them as objects of particular interest and for particular attention. It soon became known that the two Westerners, with Roberts and Jameson, the Orient pair; Pickard and Sher-

given to figuring their "actual riding time," and while it may be an agreeable pastime it is not authoritative, and serves no purpose. The men themselves clocked the times on which they base their "records."

Unfortunately for all, Beeber and Rogers were among the first to reach trouble. Rogers was bowled out by a big stone beyond South Framingham, which crushed his front wheel and threw him hard. He sustained a cut to the bone on one arm, and could not continue. Press dispatches afterward stated that he had been carried to a hospital, but these were untrue. He came by train to New York, arriving in time to see some of the survivors finish. Beeber came to grief soon after his mate. His tire punctured and coaster-brake went wrong, and



THE START AT BOSTON—BERNARD AND O'MALLEY AWAITING THE WORD.

and Wherett, on Strattons, being the first and chief sufferers from motor troubles. The former attempted to drive his motor with a long chain direct from a rear sprocket to the gear wheel, and did not get five miles outside of Boston. Wherett's motor also went wrong soon after the start.

It rained the night of the 3d, and in consequence the usually fine roads out of Boston were in treacherous shape. But, despite their slipperiness, the men took chances, most of them riding as if fast time, instead of a steady 15 miles per hour, was the object. As a result the laughable spectacle was presented at the first control, South Framingham (23 miles), of 28 of the contestants grouped within a few yards of the green flag denoting the control. They refused to actually pass the flag until their 15-mile time limits expired. This procedure

man, of the Indian tribe, and George Holley, were each concerned about the other. The four Hartford men were also factory experts, but were under the direction of a manager, and they had little to say for themselves, but their eyes were supposed to be open. The result was that one or the other was always in front. Usually they were in pairs, each shadowing a particular one of the others and making sure that he did not keep more than a few yards away. Some fast work, which ended only when the green flags came into view, was the outcome. The men were experts in every sense of the word. The way they handled their machines was a revelation. They took all sorts of chances on all sorts of roads, and when all was over even Pickard, one of the most daring, was full of praise for Holley and Bernard particularly.

Since the affair some of the men have been

after he had repaired things news of Rogers's accident reached him in exaggerated form, and he spent some time in trying to locate him. Being unsuccessful in his quest, he went on, reaching Springfield after the control had closed. He remained there overnight, and early the next morning made an effort to reach Hartford on his bicycle, but rain during the night had converted the road into a quagmire, and the quagmire won. The other Mitchell entries, Mankowski and Allmen, gave rare exhibitions of pluck and road endurance. The former, an individual entry, had been riding a motor bicycle but ten days. He had trouble on the slippery roads out of Boston, but reached Warren but 25 minutes late. After that he had several bad falls, and reached Springfield hours behind his schedule. Nothing daunted, he pushed on in the dark, arriving at Hartford

45 minutes after midnight, having walked most of the 26 miles from Springfield. The next morning he was groggy, but still game. He again ran into trouble after leaving Meriden, and had more tumbles. He bent his cranks several times, and finally arrived in New York at 9 o'clock, with his muffler tied on, his mixer loose and rattling, and his frame out of true. Allmen's experience was much the same, save that a puncture added to his woe. He reached Hartford after dark

port the next day he collided with a cyclist and was almost put out of the running. Despite his accidents, however, he reached all controls within his time limits and scored the coveted 1,000 points. Fortune and foresight favored the Indians. They were the only men to carry an extra supply of gasoline. It was carried in canteens slung across their backs. Once when Hendee fell he ripped his gasoline tank and spilled the fluid, and, as luck would have it, at the very

day before, and were fitted with a new lubricating device with which the makers are experimenting. The men did not arrive in Boston until late the previous night, and at least two of them started in the contest the next morning without having had breakfast. These two, A. R. Marsh and Robert Halshall, were taken sick at Worcester and forced to quit. Of the others Jenkins, Brown, Hoyt and G. L. Marsh were put out of the running by the breakage of their coaster-brakes,

Summary Showing Standing of Each Rider at Each Control.

Name.	H. P.	Bicycle.	So. Framingham	Worcester	Warren	Springfield	Hartford	Meriden	New Haven	Bridgeport	Greenwich	New York	Total points
George M. Holley, Bradford, Pa.....	2¼	Holley	100	100	100	100	100	100	100	100	100	100	1,000
George M. Hendee, Springfield, Mass.....	1¾	Indian	100	100	100	100	100	100	100	100	100	100	1,000
George W. Sherman, Brooklyn, New York.....	1¾	Indian	100	100	100	100	100	100	100	100	100	100	1,000
O. L. Pickard, San Francisco, Cal.....	1¾	Indian	100	100	100	100	100	100	100	100	100	100	1,000
N. P. Bernard, Hartford, Conn.....	2¼	Columbia	100	100	100	100	100	100	100	100	100	100	1,000
L. H. Roberts, Waltham, Mass.....	3	Orient	100	100	100	100	100	100	100	100	100	100	1,000
William B. Jameson, Waltham, Mass.....	3	Orient	100	100	100	100	100	100	100	100	100	100	1,000
N. T. Marsh, Brockton, Mass.....	1¾	Marsh	100	94	100	100	100	100	100	100	100	100	994
F. W. Tuttle, Hartford, Conn.....	2¼	Cleveland ..	100	100	83	100	86	100	100	100	100	86	959
Emil Hafelfinger, New York.....	1½	Royal	100	100	100	100	44	100	100	100	100	100	944
Joe Downey, Brockton, Mass.....	1¾	Marsh	100	95	100	100	64	100	96	69	100	28	852
Henry Allmen, New York.....	2	Mitchell	100	100	75	100	1	100	61	19	1	1	558
C. Mankowski, New York.....	2	Mitchell	100	97	1	1	1	100	1	1	1	1	304
George M. Holley, Bradford, Pa.....	2¼	Holley	100	100	100	100	100	100	100	100	100	100	1,000
George M. Hendee, Springfield, Mass.....	1¾	Indian	100	100	100	100	100	100	100	100	100	100	1,000
George W. Sherman, Brooklyn, New York.....	1¾	Indian	100	100	100	100	100	100	100	100	100	100	1,000
O. L. Pickard, San Francisco, Cal.....	1¾	Indian	100	100	100	100	100	100	100	100	100	100	1,000
N. P. Bernard, Hartford, Conn.....	2¼	Columbia	100	100	100	100	100	100	100	100	100	100	1,000
L. H. Roberts, Waltham, Mass.....	3	Orient	100	100	100	100	100	100	100	100	100	100	1,000
William B. Jameson, Waltham, Mass.....	3	Orient	100	100	100	100	100	100	100	100	100	100	1,000
W. T. Marsh, Brockton, Mass.....	1¾	Marsh	100	94	100	100	100	100	100	100	100	100	994
F. W. Tuttle, Hartford, Conn.....	2¼	Cleveland ..	100	100	83	100	86	100	100	100	100	86	955
Emil Hafelfinger, New York.....	1½	Royal	100	100	100	100	44	100	100	100	100	100	944
Joe Downey, Brockton, Mass.....	1¾	Marsh	100	95	100	100	64	100	96	69	100	28	872
Henry Allmen, New York.....	2	Mitchell	100	100	75	1	1	100	61	19	1	1	459
C. Mankowski, New York.....	2	Mitchell	100	97	1	1	1	100	1	1	1	1	304
J. M. O'Malley, Hartford, Conn.....	2¼	Rambler	100	100	100	100	1	100	100	100	...	...	701
H. E. Lane, Brockton, Mass.....	1¾	Marsh	100	100	100	100	15	100	1	1	...	...	517
Charles M. Burnham, Waltham, Mass.....	1¾	Marsh	100	100	100	100	100	100	...	...	...	...	600
Charles S. Henshaw, Boston.....	2¼	Auto-Bi	100	100	100	100	100	100	...	...	...	...	600
Joseph I. Russell, Hartford, Conn.....	2¼	Crescent	100	100	100	100	*	...	...	...	...	...	400
Charles A. Persons, Worcester, Mass.....	2	Royal	100	100	100	25	...	...	...	...	...	...	320
K. H. Beeber, Racine, Wis.....	2	Mitchell	100	1	1	1	...	...	...	...	...	...	103
W. F. Seaman, Mineola, L. I.....	1¾	Mitchell	100	100	93	...	...	...	...	...	...	...	293
G. L. Marsh, Brockton, Mass.....	1¾	Marsh	100	100	1	...	...	...	...	...	...	...	201
Harold H. Brown, Boston, Mass.....	1¾	Marsh	100	100	...	...	...	...	...	...	...	...	200
A. A. Hoyt, Whitman, Mass.....	1¾	Marsh	100	100	...	...	...	...	...	...	...	...	200
A. R. Marsh, Brockton, Mass.....	1¾	Marsh	100	100	...	...	...	...	...	...	...	...	200
Robert Halsall, Brockton, Mass.....	1¾	Marsh	100	56	...	...	...	...	...	...	...	...	156
E. L. Ferguson, New York.....	2¼	Holley	100	1	...	...	...	...	...	...	...	...	101
G. V. Rogers, Racine, Wis.....	2	Mitchell	100	...	...	...	...	...	...	...	...	...	100
H. J. Wherett, Brooklyn.....	2½	Stratton .....	**	...	...	...	...	...	...	...	...	...	...
Charles A. Root, jr., Brooklyn.....	1½	Stratton .....	**	...	...	...	...	...	...	...	...	...	...
George P. Jenkins, New York.....	1¾	Marsh .....	**	...	...	...	...	...	...	...	...	...	...

*Disqualified. **Started, but did not make first control.

with one trouser leg rent from top to bottom, and came into New York five minutes after Mankowski. Falls which bent his cranks and ripped a dozen spokes out of one wheel, and a heavy rain squall had caused most of his delay.

Of the Indian triumvirate Hendee, probably the heaviest man in the run, was the chief sufferer. He sustained four falls, two of them bad ones. On the first day he ran suddenly into a gully after crossing a railroad track, and was thrown heavily, cutting his face and tearing his trousers. At Bridge-

port the next day he collided with a cyclist and was almost put out of the running. Despite his accidents, however, he reached all controls within his time limits and scored the coveted 1,000 points. Fortune and foresight favored the Indians. They were the only men to carry an extra supply of gasoline. It was carried in canteens slung across their backs. Once when Hendee fell he ripped his gasoline tank and spilled the fluid, and, as luck would have it, at the very

moment an itinerant tinker drove up, soldered the hole in the tank, and with his canteen of gasoline at hand Hendee lost little or no time. On another occasion Sherman fell and broke a crank, and again fortune smiled through the cloud; the accident happened directly in front of a repair shop.

The Orient men met with little in the form of either accident or incident. Jameson suffered some slight belt trouble; that was all. The Marsh contingent had a succession of hard luck. Nearly all of the machines were new ones that had not been ridden until the

Hoyt breaking a second one after having it substituted for the damaged one at Worcester. Lane ran in to a telegraph pole on the second day, and was placed hors de combat. W. T. Marsh came through after a petty trouble near Worcester that delayed him just long enough to keep him out of the gold medal awards. Joe Downey, the other Marsh survivor, had a deal of worry and lost many valuable minutes the first day by thoughtlessness. He carried an extra tank of gasoline, and foolishly fed the fluid through a

(Continued on page 412.)

RIDDEN ALL OVER THE WORLD.

NATIONAL CYCLE MFG. CO.,
Bay City, Mich.

MAY 22, 1902.

GENTLEMEN:—I wish to compliment you upon the superior workmanship displayed in special wheel built for me.

The beautiful little machine arrived day before yesterday, and I could hardly wait until it was uncrated. I placed the machine on exhibition in the store and it attracted all manner of attention. After trying it on the road, find that it is the lightest, easiest running machine I ever owned. This is making a broad statement for the reason that I have had many special wheels built for me in the 18 years that I have been riding. Am very proud of the little wheel, and I wish to thank you for your efforts in designing and building so splendid a machine. Nationals always did run easy, and the riders here are now fully convinced that they are the acme of fine workmanship and bicycle building.

Respectfully,

H. K. SMITH.

The purchase of a National is economy in the long run.
The sale of Nationals is a good business proposition.



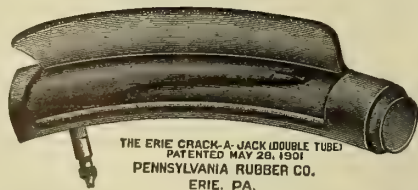
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK DOUBLE TUBE
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

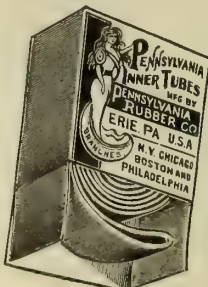
**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO

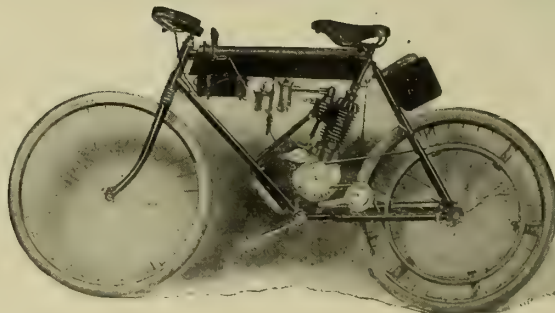
BOSTON
PHILADELPHIA



IMMEDIATE DELIVERY!

We can make Immediate
Delivery of

MARSH MOTOR CYCLES



We have the largest factory in the United States devoted exclusively to the manufacture of motor cycles, and have a proposition for agents that is to say the least, interesting. If you are out to make money, write us at once and we will let you know how.

MOTOR CYCLE MFG. CO., BROCKTON, MASS.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday
By

THE GOODMAN COMPANY,
123-125 Tribune Building.
(154 Nassau Street)
NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00
Single Copies [Postage Paid] . . . 10 Cents
Foreign Subscription \$3.00
Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, JULY 10, 1902.

The Worth of an Event.

While to those who have little or no concern in motor bicycles it may appear that too much is being made of last week's endurance run, such is not the case. It was easily the biggest event that has occurred in years, and the first in nearly a decade in which bicycle manufacturers had vitally interested themselves, and in which they were ranged in more than merely commercial competition. It was the form of rivalry that existed when the bicycle was young, and needed stimulant, publicity and improvement.

The endurance contest served all these purposes. None who has not had the run of the public prints can begin to appreciate the columns of matter that was printed about the affair. It radiated in every direction, and gave the motor bicycle prominence and publicity as a practical road vehicle, such as it required and as nothing that had occurred before even began to approach.

The value of a contest as a promoter of mechanical betterment was also brought out

with clear cut distinctness. Nearly all those makers who participated freely acknowledge the instruction gained, which as it benefits their productions returns to the benefit of those who purchase and use them.

It may be argued that all that was accomplished and learned could have been done or learned in other ways. But it is there the element of public competition shows its worth. When makers receive individual complaints they are prone to "consider the source" and minimize the significance or delay action. When the same things occur in a public demonstration, under their own eyes, and where the world also may see, it is rare that action is not prompt and emphatic.

The motor bicycle and all its friends needed the Metropole Cycling Club's endurance run, and the Metropole Cycling Club can justly feel that it has rendered a service the value of which is not easily estimated.

Tires and Anti-Vibration Frames.

There is one corner of the great battlefield in which the human forces are more than holding their own against the terrestrial atmosphere. As a whole, Science recoils defeated, but in the department of pneumatics she has won many a notable victory; and if we cannot point to the firmament above us and say that we have sounded its depths and solved its problems, we can at least boast that, by taking it in small quantities and imprisoning it in vessels of our own device, we have compelled it to minister to our wants and comforts in a very high degree.

To few industries has the science of pneumatics been more profitably employed than to cycling. The introduction of the pneumatic tire some twelve or fifteen years back created a revolution in the trade. When this invention had survived the prejudices incidental to all novelties, and had established itself as the only possible form of tire, it was felt for some years that nothing further was possible, or, indeed, desirable, in the way of an anti-vibration accessory.

The spring frame, which in a solid tire reign might have developed into an actuality, drooped and died from sheer lack of encouragement. The novelty of the pneumatic tire and the decided improvements that it brought about in riding conditions carried every one along with it, making all blind to still further improvements and comforts. These conditions are now being looked at for another revamping, with the result that a yielding frame is coming to be as

recognized a necessity as was the yielding tire. The pneumatic tire did much to increase cycling, but it should not be overlooked that it also did something toward retarding the final and ultimate in comfortable riding.

Two Notable Triumphs.

Above and beyond all else, the endurance contest threw a strong light on two much mooted points of motor bicycle construction—the chain drive and the two speed gear.

The performance of the chain driven machine was such as to give it a tremendous boost and bring dismay to its detractors, who are both numerous and bitter. The figures of themselves tell the story. Of the thirty-one starters ten employed chain transmission. Of the eleven machines to obtain awards, six were chain driven and one other was disqualified through no fault of the chain. Comment cannot add to the impressiveness of the situation.

But one two speed gear was employed, and that one a machine the power of which is known to approximate little more than "one horse." It was the least powerful motor in the contest, but its performance approached that of the most creditable, regardless of power. On its low gear it was able to surmount hills which worried many machines of twice its power. There is food for almost unlimited reflection in the fact.

Retailers Have Cause to Rejoice.

That the present season will pass into history as by long odds the best the retail trade has experienced since the boom days is a foregone conclusion.

It is a longer season than we have been accustomed to of late years, but of course is none the less welcome on that account. The remarkable part of it, however, is that June, no less than May, saw large additions made to the ranks of active riders, and the present month gives every promise of equaling the record of June.

The Fourth of July was, in this vicinity at least, one of the finest wheeling holidays that has been given us even in this year of almost ideal weather.

The retail dealers were rushed with work, and they bore testimony to the fact that the holiday had tempted out riders who had been contemplating riding all the year, but had never quite reached the point of doing so. As one dealer put it, "I have had more cobweb-covered machines brought in to be looked over in the last couple of days than at any time since the early spring."

Sales continue to be made, if not in large

numbers, at least often enough to reach a respectable total each week. There is scarcely a dealer who will not vouch for the accuracy of this statement.

In fact, the season has been and still continues to be an extraordinary one in respect to the amount of riding done. The selling part of it is by no means at an end, and a little hard work on the part of the trade will put off the dreaded period when sales cease yet a little while longer.

Of course, it is not meant that the prosperity is due altogether to the sales of new machines.

In fact, quite the contrary is the case. It is the machines which have been brought out from a more or less lengthy period of retirement that have marked the present season. They have been seen everywhere and in such numbers as to cause the average maker to wonder if the supply is inexhaustible, so anxious is he to see the more extensive buying of new machines begun.

The very much greater interest taken in riding renders it almost certain that this hope will be realized before very long, and is in itself the best augury of a prosperous future for the business.

Some Lessons of the Run.

Aside from the many other benefits which it left in its train the motor bicycle endurance run is certain to make its influence felt for the mechanical betterment of these machines.

Three men interested from the standpoint of manufacturing frankly state they have learned more on this occasion than in all the time since taking up this branch of the bicycle industry. In fact, one so strongly put it as to say that the expense had been trivial and the returns several thousands of dollars in value. What the riders themselves thought is best illustrated in the remark of one, who is an outdoor tester, when he said: "I have learned more in this run, of value to me in my position, than in all the six months of previous work."

While a few knew fitments were put on to be tried out in the run, the general equipment was that used as regular. That the former should give trouble was not to be wondered at, and in one notable example a lubricating device, the run was of incalculable value in proving that changes would have to be made before the affair could be adopted.

Here was a case of direct return, as the device had seemingly worked correctly in

previous trials, short but cumulative. In place of going ahead with it as at present designed, thus investing a lot of money that would be finally lost, the run taught its minor deficiencies that can now be corrected and then marketed without fear of giving trouble to customers or being thrown back on the sponsor. In this particular alone there is a large moneyed return.

It was to be expected that new things would furnish food for thought and other considerations, but they were not singular in this, as a number of construction features that had been regarded as satisfactory so far as all previous tests and usage went to show, developed small weaknesses that can be corrected without materially affecting existing factory and assembling conditions. Specifically three of these items were mudguards, tank supports and position of the muffler.

In the first it was found by some who had them that where the front guard is attached to the under side of the crown there was a chance to improve by using a plate or other means of reinforcing at this point to prevent the screwholes from breaking through from the jarring.

The basolene tanks on a few different makes are located in the same approximate position. In two of these the makers stated that previous experience had taught them that the supports must run direct to both ends. In the other direct support at one end and a support on the rear mudguard at the other end had previously given no trouble, but at least one machine on this run had trouble from a developed weakness at the point of the rear support.

Another example of what general road riding will do to detect points in detail has relation to the position of the muffler. As all designers of motor bicycles know, the disposal of the muffler and the lead to it is one of the hardest things to take care of from the standpoint of "good looks." In one make of machine on the run the position of the muffler is inconspicuous, but rather low. The effect of its position is to make it liable to being struck in straddling a rut or in going over a slight ridge, such as a railroad track, with the result that it may be broken off.

Taken as a whole the work of the motors and their immediate essentials deserve the highest eulogiums as well as the construction of the bicycle frames themselves. The one thing which can come in for the severest criticism is what can fairly be termed an outside part, the coaster brakes on some machines. Many of the withdrawals in the first

seventy-five miles can be traced directly to these fittings.

Whether or not the fault was inherent in the makes used can only be definitely determined later on. Many theories can be advanced, but one that seems reasonable in the face of our experience in the past and from watching riders in the run would place the blame on those who rode the machines rather than upon the device itself.

As will be found in the detailed report of the run, the day previous to the start was one of constant and soaking rain. This made the roads particularly slippery for the first twenty odd miles, owing to the early start, which had not given time for the roads to dry out, in part at least. Those riders who had not had considerable previous experience under like conditions soon brought their coaster brakes to grief, because they permitted the motors to run at full speed through it all and endeavored to steady the machines over slippery places by setting up a resistance at the rear hub. This, by not cutting down the speed at the necessary moments, put an undue and unfair amount of work on the hubs. Should this prove to be the real cause, it will clear up a point now somewhat in doubt.

From the many reports there were falls all along the route and perhaps nothing goes further to prove the all round good qualities of the machines than these tumbles.

The arrest at Freeport, L. I., of two motorcyclists for "scorching" at the "furious" rate of nine miles per hour may be within the letter of the law, but certainly it is outside the realm of common sense. We fear that in the repetition of history the motor bicycle is making, it marks the first line of the first page of such persecution as that to which the cyclists of five and ten years ago were subjected.

Let no man sniff at the 1 points which appear in the summary of the endurance run. They represent the stern qualities of pluck and determination that refuse to be turned aside by misfortune—qualities which all the world admires. The 1 points stand for the men who "got there just the same," and the men who "get there" are the men worth while.

It is the little thing that counts, and one of the little things in motor bicycle equipment that most makers overlook is the value to the buyer of a step on each end of the rear hub axle.

THEY ARE HARD TO BEAT !

1000 PER CENT.

Boston to New York.

250 MILES ON TIME.

Two Orients Started.

Two Orients Finished.

WALTHAM MFG. CO., Waltham, Mass.

New York City, July 5th, 1902.

Dear Sirs:—Have not found out as yet who won. We arrived O. K.; no trouble. I was in New York FIRST, but did not dare to show up until I was due—5:20. Had to sit on the curbing and see three others go in. I had the fastest machine and BEST of the bunch. Took every hill from Boston to New York without any of my help.

Will be back some time Tuesday.

Yours truly,

L. H. ROBERTS.

WALTHAM MFG. COMPANY, = = Waltham, Mass.

A Reminder...

**SEE THAT YOUR AUTO OR BICYCLE
IS EQUIPPED WITH**

FISK TIRES

That is, if you want the best.

FISK RUBBER CO., = Chicopee Falls, Mass.

BAGGED TWO BROOKLYNITES

Josh, Hiram and Reuben of Freeport Spring the Trap—How They Did it.

Sunday last was a great day for Freeport, L. I. The police and judicial authorities combed the hay from their locks and put their heads together to such good purpose that before the cows had been milked or the hens retired to their roosts that night the treasury of the Freeport police court bulged with money collected from "them goldern city fellers," among them two prominent motor bicyclists.

Freeport, like many other places on Long Island, has suffered a bad attack of auto-phobia. The good people of the little town have read so much of the "White Ghosts" and "Red Devils" of yellow journalism that every shadow has suggested a speeding, snorting automobile, while their very dreams have been filled with them. The authorities finally decided that peaceful sleep was absolutely necessary and must be had at any price.

The campaign was carefully planned. On Sunday last Constable Hiram was stationed at a point on the road a quarter of a mile removed from Constable Reuben, who stood, stop watch in hand. A half mile distant Constable Josh, with a corps of helpers, guarded a big furniture van.

When an automobile or motor bicycle passed Hiram he signalled to Reuben, who at once snapped his watch. If the watch disclosed a speed of more than eight miles per hour Reuben shouted, "Hi, thar! Stop! You're arrested." If the man refused to stop Reuben signalled to Josh, who, with his aids, dragged the furniture van so that it blocked the road.

The trap worked nicely. Its bag probably would have been much larger had not cyclists along the road shouted warnings to all whom they passed. The Alpha Motor Cycle Club, of Brooklyn, happened along about the time the warnings were thickest. According to one account, George M. Fisher, its captain, was one of the first to enter the jaws of the trap. He was moving at reduced speed, of course, but when he reached Reuben and his stopwatch Reuben ordered him to halt, and gathered him in. Fisher says the constable testified afterward that he was moving at the rate of 9.1-16 miles per hour. Edward W. Wyatt, a member of the same club, who had cut off power and was pedalling his bicycle, was also halted and arrested. H. P. Macrery, the club's president and the rider of the most powerful machine hereabouts, was more fortunate. According to one account, his belt broke after passing the first jaw of the trap, and he was compelled to stop before the chronometer was snapped on him.

Before his arraignment in court Fisher states that the constable called him aside

and informed him that he had "fixed things" with the judge, and that if he (Fisher) pleaded guilty and threw himself on the mercy of the court he would be let off with a light fine. Fisher accepted the advice, and paid \$5 for it. Wyatt also was mulcted the same amount, but some of the automobilists paid as high as \$15. One of them refused to pay and was held in \$100 bail. He claims that the arrests were made outside the corporate limits of Freeport, and purposes to fight the case. According to Fisher, neither the judge, the constable nor any one else involved appeared to have a well defined idea of what "corporate limits" meant, or, at any rate, where they existed.

Jubilee Parade on Saturday.

Despite the fact that the Silver Jubilee parade, which was designed to celebrate the twenty-fifth anniversary of American cycling, has met with the apathetic support of the trade, the event, which occurs on Saturday under the joint auspices of the clubs of New York and Brooklyn, promises well.

Chairman Oatman and his immediate assistants have put in a tremendous amount of eleventh hour work, which it is believed will tip the scales and make the event worthy of the occasion which it is designed to celebrate. Some eighteen separate divisions have been provided for, and some of the best known men in the city have consented to officiate as judges, among them Jefferson Seligman, Col. Avery D. Andrews, Alderman Armitage Mathews, Joseph Cassady, President of Queens Borough; L. J. Haffen, President Bronx Borough; Edward Fiske, Mayor of Mt. Vernon; T. A. Raisbeck, John C. Gulick, A. G. Batchelder, and George Livingston, Commissioner of Public Works.

Smith a Do-Something Dealer.

Harry K. Smith, the head of the Council Bluffs (Iowa) Cyclery, and the agent for the National bicycle, is evidently of the up-and-doing kind. He has organized a baseball team, which is styled the Cyclery Blues—Blues because of the uniform—and also the National Cycling Club, which among other things holds a handicap race weekly.

Baltimore Swings Into Line.

The Baltimore Motor Cycle Club, of Baltimore, Md., has been organized. The officers are: William McCallister, president; Robert French, vice-president; Robert Atkinson, treasurer; Howard A. French, secretary, and Robert Thompson, captain.

Minneapolis Will Coast and Brake.

The Minneapolis Cycle Trade Association has a coasting and breaking contest scheduled for Saturday next. There are classes for both fixed wheels and coaster brakes, and the prize list is rick enough to attract a large entry list.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

FRONT FORK CONSTRUCTION

Has the Curved Backward Design any Advantages?—Being Tried on the Track.

What might have been looked for has really come to pass. The racing man now uses forks bent or curved backward, instead of straight, as has been the fashion of pace followers for some time.

The machine of Champion, to take only one notable exponent of the art, has a backward curve to its front fork that is very perceptible. One has but to sight the machine as it goes around the track to become aware of this fact.

"And why not?" is the question that very naturally arises.

If a perfectly straight fork enables a rider to get close to his pacing machine, why will not one with a backward curve to it help matters still more? Obviously Champion thinks it will, and he has the courage of his convictions and rides with such a fork.

Many years ago, when William Van Wagoner, now a prominent automobile superintendent, was with the Eagle Co., he wanted to bring out a safety machine with a rearwardly curved fork, just such a one as was used on the old high Eagle. But a fear that the public would not take kindly to this revolutionary proceeding prevented anything being done with it. Nevertheless, Van Wagoner always contended that such a fork would work better than the regulation style. He likened it to a caster, and said that as a bicycle was pushed it should have a fork of this kind.

And that he was not altogether wrong seems to be certain, for Champion experiences no trouble in steering at better than a 1:30 gait.

Why Connerat has no Complaint.

R. V. Connerat, one of the leading dealers of Savannah, Ga., is in the city this week. He is among the number who have no cause for complaint. He has enjoyed a good year, and, like nearly every one else who places real faith and energy in the cushion frame, he reports that it has proven a considerable factor in making sales. He has a cushion frame bicycle always ready for riders to try, and finds such trial rides a powerful influence in creating sales.

McCutcheon Goes to Boston.

Charles T. McCutcheon, who has occupied many important positions in the bicycle business, has just been appointed manager of the American Roller Bearing Co., of Boston, assuming his new duties last Monday. Mr. McCutcheon is a clearheaded, capable man, and with his splendid mechanical training and natural capacity for making and keeping friends, ought to prove an ideal man in his present position.

NOW FOR LEAGUE MEET

Promises of an Unusual Attendance—Free Fun and the Men Who'll Provide It.

The preliminary details in connection with the twenty-third annual meet of the League of American Wheelmen, to be held at Atlantic City next week, are about completed. An immense programme has been prepared for the wheelmen during their four days' stay at the shore. Word has been received at committee headquarters, 639 Bourse Building, Philadelphia, that large delegations are coming on from New York, Boston, Pittsburgh, Baltimore and Washington, besides the thousands in the closer districts who will avail themselves of the meet to spend their vacations at the shore.

The special features in connection with this year's L. A. W. meet at Atlantic City have all been arranged with a view to furnish the wheelmen with as much fun as possible for nothing, or nearly nothing, upon presentation of the L. A. W. cards.

The meet will begin on July 16 at noon, at headquarters (Grand Atlantic Hotel), where on registration the visiting wheelmen will be given members' badge, souvenir programme and credentials.

Information regarding plans, etc., can be secured from any of the following chairmen of committees:

General Information—George M. Schell, chairman Executive Committee, Room 639 Bourse Building, Philadelphia, Pa.

Hotel and Accommodations—J. C. W. Parsons, No. 1,003 Atlantic avenue, Atlantic City, N. J.

Transportation and Railroad Rates—H. B. Fullerton, Long Island City, N. Y.

Pioneers' Banquet—Abbot Bassett, No. 221 Columbus avenue, Boston, Mass.

Tours and Runs—A. H. Allen, 2,206 Germantown avenue, Philadelphia, Pa.

Entertainment and Amusements—H. Hochstadter, No. 925 Chestnut street.

Good Roads' Convention—John B. Uhle, "Evening Post" Building, New York City.

Races—Arthur Irwin, Coliseum track, Atlantic City.

Cycle Parade—R. G. Stillwell, Preston Building, Atlantic City, N. J.

Road Race—George M. Schell, 639 Bourse Building, Philadelphia; J. C. W. Parsons, 1,003 Atlantic avenue, Atlantic City, N. J., or L. C. Boardman, 119 Tribune Building, New York City.

One Guarantee Covers Everything.

The Rudge-Whitworth Co., England's biggest concern, guarantees for a year not only every part of its bicycle, but the tires as well. The policy is in striking contrast to that in vogue in this country, where the tendency is to cover a bicycle with from three to seven different guarantees—one for each separate fitting not made by the cycle maker himself.

Still After Warwick Officers.

That old man of the mountains in the bicycle industry has once more made appearance in a hearing involving the affairs of the Warwick Cycle Manufacturing Company, which was opened at Springfield, Mass., on Monday, before Judge E. T. Slocum, of Pittsfield, as special master, the case being the one brought in 1899 by Alfred S. Clarke, of Providence, R. I., and other creditors against the Warwick Cycle Manufacturing Company, and George A. Russell, A. O. Very, Edward S. Brewer, Nathan D. Bill and Andrew B. Wallace, as officers of the company, to enforce the liability of the officers of the concern for the debts in excess of the amount of the capital stock.

The plaintiff Clarke alleges that he obtained a Superior Court judgment against the defendant company, and that the execution was returned into court by the Deputy Sheriff unsatisfied after payment had been demanded of the president and treasurer of the company.

The plaintiff claims that the company had a capital stock of \$200,000, and that while the defendants were directors the company became indebted in excess of the capital stock for amounts aggregating about \$59,815. The plaintiff prays that the defendants be ordered to pay the amount of his claim.

Since the filing of the bill of complaint the Pynchon, City and Second National banks, of this city; the Excelsior Needle Company, of Torrington, Conn.; the Hygienic Wheel Company, of New York; the Newton Rubber Works, of Boston; the Brown Saddle Company, of Elyria, Ohio, and Morgan & Wright, of Chicago, have been admitted as parties to the action as creditors of the Warwick company.

The Retail Record.

Rockland, Me.—E. R. Davis, opened store.
Belfast, Me.—Charles Braddock, moved store.

Morrisonville, N. Y.—F. F. Bouyea, opened store.

Oxford, Mass.—Herbert B. Gates succeeds Frank S. Clark.

Olean, N. Y.—Smith & Gibney succeed Claude R. Smith & Co.

Beaumont, Tex.—F. McGowan, proprietor Beaumont Cycle Works, deceased.

Leavenworth, Kan.—Tholen Brothers succeeds Leavenworth Cycle Company.

Seattle, Wash.—George H. Woodhouse Company; bicycle department discontinued.

Waltham's Busiest Factory.

The present season is a busy one with the Waltham Manufacturing Company, of Waltham, Mass., in their manufacture of bicycles and automobiles. A large number of employes are at work, and so rushed is the company with orders that it is necessary to run the factory Saturday afternoons and holidays. This is almost the only manufacturing in Waltham that is run Saturday afternoons during the summer.

WANT THEIR MONEY BACK

Stockholders Begin Proceedings Against Officials of Canadian Trust.

By an action entered last Thursday in the High Court, George W. Bedell seeks to set aside the purchase by the Canada Cycle and Motor Company of the National Cycle and Automobile Company by Toronto institutions.

The writ also involves sums of money aggregating \$600,000. The defendants are: Hon. George A. Cox, J. W. Flavell, A. E. Ames, Hon. Lyman Melvin-Jones, of Toronto; Warren Y. Soper, of Ottawa, and Mrs. W. E. H. Massey, C. D. Massey and J. H. Houssen, executrix and executors of the late W. E. H. Massey's estate. Besides these the Canada Cycle and Motor Company is named as a co-defendant, but the suit is really against the individuals named.

Bedell is suing on behalf of himself and all the shareholders of the Canada Cycle and Motor Company, other than the individuals named, as defendants.

The main claim is that the purchase of the National Company was illegal. The damages claimed are particularized as follows:

1. Cancellation of the agreements of sale and the refunding to the shareholders of the Canada Cycle and Motor Company of the \$289,000 purchase money.

2. The repayment to the shareholders of the Canada Cycle and Motor Company of all the obligations and debts of the National Company assumed at the time of the sale. One debt of \$150,000 is particularized.

3. Damages to be paid to the shareholders of the Canada Cycle and Motor Company, because the defendants, as directors of the company, entered into the bargain, thus showing "negligence and breach of duty."

The refunding to the company of the \$175,000 paid as dividends during 1901 out of the capital stock of the company.

Some time ago a suit was entered against these same directors by other shareholders, involving some \$340,000, which, it was claimed, was cleared up by the directors at the time of the consolidation. This suit is being pressed also.

Two Model Machines Disappear.

The theft of two model wheels, recently completed by the mechanics of the Sager Gear Company, of Rochester, N. Y., and the only ones of their kind in existence, is puzzling the local detective department. The intrinsic value of the wheels is not felt so much by the Sager company as the fact that the wheels were equipped with new inventions which have not as yet been patented.

The wheels were completed and were taken downstairs in the factory of the company in Otsego street to be examined by the company's experts. The wheels were placed in a rack on the sidewalk, directly under the office windows, and no thought was given of their safety until an official of the company discovered their absence.

SEVEN MEN EARNED PERFECT SCORES

(Continued from page 405.)

length of rubber hose. The gasoline, of course, ate the rubber, and in due time Downey's gasoline supply was choked, and he had no easy time clearing the tank. He came into Hartford disgusted and swearing at himself.

The American Cycle Mfg Co.'s quartet, the four Hartford entries, were a competent lot. They knew their machines like a book, and knew how to handle them. Bernard was easily the "star." Save for one puncture and the breakage of a chain link, due to his use of one that was a size larger than the others, he went through without a skip, fall or mishap, and was one of the freshest men at the finish. O'Malley had a puncture between Springfield and Hartford which let his wheel down on a stone and tore off his muffler. The puncture was a bad one and could not be repaired. O'Malley filled the tire with sand and made a game effort to reach Hartford on that makeshift. The effort tore twenty odd spokes out of his rear wheel, and he finally reached Hartford afoot. The next day he had sparking troubles, and was not heard from after Bridgeport. Russell, one of his mates, had the distinction of being the only man to be disqualified. He fell and broke a pedal and handlebar near Hartford, and then permitted himself to be towed for some distance. His disqualification was due to the honorable and sportsmanlike instincts of Arthur L. Atkins, manager of the Columbia factory. Russell reached the Hartford control on time, and as none knew of his having been towed he was credited with a perfect score. He said nothing to the officials about his violation of the rules until an hour later, when Mr. Atkins compelled him to admit and report his offense. Only those who are in position to know the trade rivalry that existed and of Atkins's keen interest in the event and its outcome can fully appreciate his honorable action.

The only other suggestion of unfair tactics was the statement of one contestant at the finish that a rival had paid to have his bicycle carried up a long, steep hill, a charge that was emphatically denied by the man accused.

The two Holleys in the run were ridden, one by George M. Holley himself, the other by E. L. Ferguson. The latter located a short circuit in the handlebar and then made a makeshift circuit by carrying the wire in his hand and against the handlebar. Later he attached the wire to the screw securing the spark lever, and when he suddenly encountered a gully in the road could not break the connection quickly enough, and was thrown headlong into the woods at the roadside, where he lay stunned for some forty minutes. He managed to reach Worcester, and being badly "done up" he thereafter and as secretary of the promoting club joined the chairman and the referee and followed the run by train and checked the checkers at the different controls. Holley himself admitted some belt slipping. Beyond

this triviality nothing happened. His control of his machine was superb. Neither mud, dust, sand, ruts, hills nor anything else feased him. Once when another rider complained of the roads Holley smiled.

"Why, they are like boulevards," he exclaimed in his quiet way. "I wish we had them out our way."

Holley had not a fall and was always near the front. The only chance he did not take was that of disqualification. There was sharp rivalry for the credit of being first at the controls, and at Hartford Pickard, who arrived first, Jameson, Roberts and Henshaw

The first four were ahead of their scheduled arrivals, and seated themselves in Central Park until they were free to arrive at the control across the street without penalty. A photographer induced them to come into the station to pose for their pictures, an act that came near spoiling Roberts's clean score. The others were safe at the time, but Roberts had a few moments to kill and thoughtlessly joined them, crossing the threshold just fifteen seconds outside his unpenalized limit.

Of the Royal entries, Hafelfinger gave a splendid account of himself. He used the

FOUR OF THE GOLD MEDALISTS AT THE NEW YORK CONTROL.



HOLLEY.

PICKARD.

ROBERTS.

BERNARD.

CHECKER OATMAN

were all cautioned for overspeed, and the penalty would have been inflicted but for a misunderstanding as to the position of the control flag, which entitled the men to the benefit of the doubt. Holley came in with the two Orient men, but he had so timed himself as not to require the warning. The second day was practically a Holleyday. He was in front all the way, and reached New York ten minutes in advance of the next man, Bernard. There has been some controversy on this point, but a Bicycling World man, stationed at the turn a half mile from the finish, checked and timed the leaders at that point, as follows: Holley, 5:01 p. m.; Bernard, 5:11 p. m.; Roberts and Jameson, 5:12 p. m.; Pickard, 5:13 p. m.; Sherman, 5:32 p. m.; Hendee, 5:36 p. m.; Tuttle, 6:01 p. m.

smallest motor, one of scant 1½ h. p., but he also employed a two-speed gear, the only one in the run, and with it was able to climb practically every hill, on some of which far more powerful motors balked. He scored 100 points on every control save the last one on the first day. On that stretch he ran out of gasoline, had a fall which bent his brake and hurt his leg. Further on he became so parched he accepted the invitation of some good natured Germans to help them dispose of a keg of beer and dallied too long. Ten miles outside of New York he punctured, and after riding some distance on his rim found a repair shop. The repair held until he came within twenty yards of the finish, when the tire again went flat. C. A. Pearsons, the other member of the Royal family, had made four perfect controls, when unknowingly his leg

touched and opened the tap of his lubricating oil, which simply flooded his entire motor and created a short circuit that he could not locate. His enforced abandonment of the run left him almost broken hearted.

The only Auto-Bi in evidence, that ridden by Henshaw, behaved beautifully and had a clean score up to Meriden, where the fork-crown broke.

Bridgeport and Greenwich (220) the ranks were further thinned by two. The thirteen who passed Greenwich reached New York (254 miles), and of these thirteen, seven finished within their allotted limit and earned perfect scores of 1,000 points each, surprising even the promoters. All who survived and failed to win gold medals will be awarded bronze medals commemorative of the event.

Of the thirteen survivors, seven, as stated, finished with perfect scores of 1,000 points each, and thereby earned gold medals, denoting the highest possible award, two others obtained blue ribbons for coming within 50 points of the winning score, one a red ribbon for earning within 100 points, and one a yellow ribbon for being within 150 points of the leader's total.



A. R. MARSH.



W. T. MARSH.



HAFELFINGER.

HOLLEY.

The weeding out process was interesting. Three men failed to reach the first control, 23 miles. One fell out between the first and the second Worcester (45 miles), and five between Worcester and Warren, 71 miles. Between Warren and Springfield (100), where the worst roads were encountered, there were but two failures. On the road to Hart-

ford (126) two more joined the ranks of the

unfortunates, and one arrival was disqualified, making fourteen failures on the first day. On Saturday seventeen men started, and all reached Meriden (146 miles). Between Meriden and New-Haven (166), two declared themselves out of it. Between New Haven and Bridgeport (186) none quit, and between

Bridgeport and Greenwich (220) the ranks were further thinned by two. The thirteen who passed Greenwich reached New York (254 miles), and of these thirteen, seven finished within their allotted limit and earned perfect scores of 1,000 points each, surprising even the promoters. All who survived and failed to win gold medals will be awarded bronze medals commemorative of the event.

Of the thirteen survivors, seven, as stated,

finished with perfect scores of 1,000 points each, and thereby earned gold medals, denoting the highest possible award, two others obtained blue ribbons for coming within 50 points of the winning score, one a red ribbon for earning within 100 points, and one a yellow ribbon for being within 150 points of the leader's total.



MERIDEN'S MUCK.



THE LINE-UP AT HARTFORD.



CHECKER ALDEN, HARTFORD.

ford (126) two more joined the ranks of the unfortunates, and one arrival was disqualified, making fourteen failures on the first day.

On Saturday seventeen men started, and all reached Meriden (146 miles). Between Meriden and New-Haven (166), two declared themselves out of it. Between New Haven and Bridgeport (186) none quit, and between

points also for each substitution of gasoline tanks, lubricant retainers, battery cases, cylinders, cylindr heads, crank cases, mixers, mufflers, driving gears and spark controllers, each of which was marked for identification before the start. On the machines that survived, however, there were no substitutions, and, of course, no penalties were inflicted.

Massachusetts Bicycle Club; checkers, at South Framingham, Charles F. Whyte; at Worcester, Lemont and Whittemore; at Warren, D. E. Graves; at Springfield, W. E. Crowe, Massasoit Cycle Club; at Hartford, H. W. Alden; at Meriden, Wusterbarth Brothers; at New-Haven, Campbell Cycle Company; at Bridgeport, William Stiff; at Greenwich, C. H. Minchin; at New York, Alderman Joseph Oatman, president A. C. C. of New York.

IN THE

Metropole Cycling Club's

Motor Bicycle Endurance Test,

BOSTON TO NEW YORK, JULY 4-5,

F I S K S

WERE THE ONLY SINGLE TUBE TIRES

to carry their riders to

The Perfect Gold Medal Score, 1000 Points.

THE 3 INDIAN MOTOR BICYCLES

were fitted with *FISKS* and went through the test without a suggestion of tire trouble and

ALL EARNED GOLD MEDALS.

We were the first to make a motorcycle tire and experience counts. The *FISK* motorcycle tire is not like the others. Examine it.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

RACING

Hurley failed to get placed one, two, three or four in the half mile open at Vailsburg on July 6. It was owing to a big jump made by Townsend that Hurley was shut out in the half mile scratch. There was a big field in the final, and Townsend jumped early. He held a big lead into the homestretch, and then Schlee went after him and caught him a few yards from the tape. Hurley seemed unequal to the occasion, for Walter Smith was third and Glasson fourth. Time, 1:06 2-5. There was only one professional race, a two mile handicap. Lawson was the only scratch man. Kramer, Bald, Hadfield and Collett wanted to start, but were not allowed, owing to the new rule which does not permit of post entries. R. Alexander, with 150 yards' handicap, won, R. A. Carni (150 yards) second, Franz Krebs (180 yards) third, John King (180 yards) fourth. Time, 4:00 2-5. The best race of the day was the five mile handicap for amateurs. Hurley, Billington and Glasson rode from scratch, and caught the limit men on the last lap. All the riders were bunched on the backstretch, where Hurley started his sprint. When the others gave chase a bad spill occurred, in which Billington and Achorn were injured. The accident left Hurley with practically no contenders. He rode hard to finish, making a new record for the distance. The time was 10:56. The previous record, 11:09 1-5, was also held by Hurley. Charles Garrabrant got second, half a wheel in front of A. Beyerman. Charles Schlee finished fourth.

Another sensation was of a prolonged variety and had a comedy touch to it. This was in connection with an attempt to run a twenty-five mile motor paced race between Benny Monroe and Harry Caldwell. Monroe's motor tandem was placed hors de combat at Manhattan Beach on Saturday, so while Caldwell started off blithely behind a big tandem the Tennessee boy had to be content with the services of two single motor bicycles. Monroe clung to Caldwell closely for five or six miles, and then began to lose slightly. In the twelfth mile the chains on both of Monroe's pacing machines broke, one after the other. Monroe rode on unpaced for a while, and Caldwell, of course, began to lap him. The sympathy of the crowd for Monroe was manifest. Louis Elmer, Caldwell's manager, lent one of his own single motor bicycles to Monroe, and Elmer was cheered. Then the comedy began. The single proved to be speedier than the tandem, and Monroe began to gain. The crowd began to cheer and Elmer to groan. Caldwell's manager was in a dilemma. If he withdrew his loan he knew he would lose in popularity. Was he to be hoist by his own petard or suffer the hoots and jeers of outraged bleacherites? Finally, when Monroe had gained three-quarters of a lap, Manager Elmer could stand it no longer. He announced that he must have his motor bicycle back, and called it from the track.

The spectators, 4,000, strong, arose and with voice and feet made a noise that smote Mr. Elmer sorely. Lap after lap the two contestants rode, Caldwell being hooted and hissed and Monroe being cheered. At last the pendulum of Mr. Elmer's impulses yielded to the clamor of the crowd and swung back, but not all the way. He decided that Monroe could use his tandem, while his own man used the faster single machine. Then came the time for Monroe to make his play. Being so far behind that he had no chance of winning, he spurned the offer and said he would ride it out unpaced. The race went on to the end, Caldwell being continually jeered and Monroe applauded. Caldwell won by so many miles that it was not worth while to keep a score.

Elkes defeated Walthour at Boston July 4 in what was scheduled for a one hour race. Walthour withdrew on the twenty-first mile, and Elkes was called off on the thirtieth mile and given the race. His time for the distance was 44:33. There was nothing to the contest after the first mile, for at the end of the first lap of the second mile the chains on Walthour's tandem snapped, and he was left unpaced and lost two laps. His reserve machine was of no use, and he lost ground steadily, and at five miles was a mile and one-third behind. After that there was no incentive for fast riding, and Elkes settled down to a steady clip, which was outside record. Elkes continually lapped Walthour, and at twenty-one miles was fifteen laps to the good, when the latter retired. There was also a special race between S. Sulkin and Herbert Martin, five miles, single paced, best two in three heats. Sulkin took both heats in 8:35 and 8:45, respectively. After the race Elkes and Walthour left for Providence, where they were booked to ride a twenty-five mile paced race the same night. In this race Elkes won by one mile and two laps, and broke all records from one mile up. The first mile was reeled off in 1:23 2-5, with Walthour leading. In the second mile Walthour was shaken and Elkes gained several yards by riding the mile in 1:21 1-5. Walthour was soon picked up, but Elkes's terrific pace gave him several more yards. In the fourth mile Walthour's motor went wrong, and Elkes increased his lead to one mile. The ninth mile was made by Elkes in 1:20 4-5. At ten miles Elkes was five seconds ahead of the world's record. Walthour then began to ride strong, and he gained on Elkes, who was reeling the miles off in 1:24 to 1:28. At twelve miles Walthour caught Elkes, and for three laps it was a battle on the banks, but Walthour could not get by. In the next mile Walthour tried again, but Elkes held him off and ran away with ease. In the final mile Walthour tried to pass, but could not. Elkes won easily in the final sprint. Time, 35:41 2-5.

Eight thousand persons witnessed the races at Vailsburg on July 4. Bald created a sensation by winning the five mile professional handicap from the 100 yard mark.

Lawson, Kramer and "Pluggie Bill" Martin were on scratch. Beauchamp and Chevalier were also short markers. The limit riders were good stayers, and when the cracks who had middle distance handicaps began to move up it was evident that the scratch men were not in it. Martin dropped out, and his example was followed by Lawson. Then Kramer saw the hopelessness of the chase, and after a sprint also went to the stable. Turning into the stretch for the last time, Bald was leading them all. Just behind him John Bell fell and five pitched over him. This gave the tailenders a chance to ride around the heap of fallen riders and gather in the place prizes. Bald went up the straight with his oldtime sprint and won with a couple of lengths to spare. Williams (250 yards) was second and Armbruster (250 yards) third. Time, 10:21 2-5. Kramer practically showed his heels to Lawson in their match race all the way in both heats, which were ridden French fashion. In the sprint on the stretch Lawson seemed to have his sea legs still on, for he finished more than a wheel's length back each time. The first heat was run in 2:03, the second in 1:59 1-5. In the two mile amateur there were thirty-seven starters, with Glasson on scratch. Glasson caught the bunch after a mile and a half struggle, but he was then all out and could not get to the front. M. Coffey (150 yards) won, J. F. Brown (150 yards) second, L. G. Gargan (150 yards) third. Time, 4:11 1-5. In the half mile amateur handicap George Glasson (scratch) won, F. Williams (50 yards) second, O. Goerke (20 yards) third. Time, 1:01 1-5.

In the international match race in three heats at the Velodrome track, Paris, on June 24, between Ellegaard, Taylor and Meyers, the latter won. In the first of 900 metres Taylor led at the start, followed by Meyers and Ellegaard. At the bell Meyers took the lead and was never headed. Taylor was a close second and Ellegaard two lengths back. In the second heat at 1,000 metres Taylor finished first, despite the efforts of Meyers, who finished second, with Ellegaard last. Meyers and Taylor each having won a heat, great excitement was evidenced as to who would win the third heat. At the start of the third heat of 900 metres the champion of the world, Ellegaard, took the lead, but was headed by Meyers on the second lap; from this on to the finish there was a succession of sprints, Ellegaard finally winning out by inches, Meyers second, Taylor third. Meyers won the match with 5 points, Taylor second with 6 points and Ellegaard third with 7 points.

Champion's star seems again in the ascendancy, for without unduly exerting himself he defeated Stinson in a twenty-five mile paced race at Boston July 4 in 39:55. Champion had ten yards the better of the start, and at once began to gain a lead. In the first mile he had had an advantage of fifty yards. In the fifth mile Stinson sprinted, but could gain no advantage. Stinson had

difficulty in holding his pace, and in the ninth mile Champion increased his lead by a lap. Seeing that he had the race won, Champion eased up and allowed Stinson to pass him, and then took the lead again, repeating the performance several times. Champion gained his third lap in the sixteenth mile, and in the eighteenth, when Stinson's rear tire flattened, added nearly three more. Stinson rallied in the twenty-third mile, but did not have the vitality necessary for a long sprint, and Champion won by a little more than a mile. Champion broke the track record in his two ten-mile paced races against Leander at Atlantic City July 7. The Frenchman won the first heat in 15:04 by three and a quarter laps, and the second heat in 14:29 3-5 by just one mile. The last mile was made in 1:23 2-5, lowering the ten and one mile track record. In both beats Champion lapped Leander in the second mile, and kept up his fast pace to the end.

After a hard fought contest Caldwell defeated Leander in a twenty mile paced race at Atlantic City, July 2, by three and one-quarter laps in 30:33. Leander led up to the fifteenth mile, when Caldwell forged to the front, Leander having played himself out by the hard pace set. Leander finished five miles in 7:36, ten miles in 15:00 2-5, fifteen miles in 23:01 3-5. Again at Atlantic City, July 5, these same riders met in an exciting fifteen mile paced race. This time Leander proved the victor, doing the distance in 24:30 2-5. King had the pole and held it for three miles, when he lost his pace, which put him back three-quarters of a lap. He worked hard and succeeded in getting directly in the rear of the leader, but Leander held his own to the finish, winning by eight yards. In a ten mile paced race between Hunter and Fenn on the same night, the latter won by four laps in 16:50 2-5.

By defeating Leander in two straight ten mile heats at Atlantic City on July 7 Champion showed that he is still on fine edge. He won the first heat by 3½ laps in second heat he did the five miles in 7:12 2-5, the ten miles being completed in 14:29 3-5. Champion rode the last mile in 1:23 2-5. Leander was 7½ laps behind at the finish. Thompson and Boake won the three mile motor tandem record in 4:31 3-5.

On the same track on July 8 Champion won the twenty mile paced race in 29:46 by two miles. Champion rode against Fenn, who rode the first ten miles and Hunter the last ten. Champion's motor was 9½ horsepower, while his competitors' had 5½. In a three mile motor race between Thompson and Boake and Babcock and Daly the former won in 4:45. The latters' chain broke in the last mile.

Major Taylor, after defeating the flower of European sprinters, has added to his belt the scalp of one who is considered the king of stayers, Tom Linton. In a match race, paced, at the Velodrome track, Paris, on July 1. Taylor defeated the Welshman in

two straight heats. In the first heat of 2,000 metres Taylor opened up a gap of twenty lengths on Linton; continuing in the lead, he finished in 2:00 4-5, beating Elkes's record of 2:01 3-5. The second heat of 5,000 metres was a repetition of the first. Finding his efforts ineffectual, Linton slowed down, Taylor sprinting to the finish, beating the record of 4:30 4-5, held by Linton. Time, 4:28.

Nelson defeated Hall in two straight five mile paced heats at New Haven July 4. Time, 8:19 3-5 and 8:09 3-5. Billington defeated Collett in a half mile match race, best two in three heats. Time, 1:27 4-5 and 1:14. The next day at Bridgeport Nelson again defeated Hall in a twenty mile paced race. Hall was handicapped by accidents to his wheel. The time for the twenty miles was 34:17. The two-thirds mile amateur handicap was won by O. Diggs (60 yards), T. W. Billington (scratch), second; time, 1:27. The five mile amateur handicap was won by A. C. Brown (200 yards), J. E. Achorn (130 yards) second; time, 11:18 2-5.

By four inches Iver Lawson lost his sprint race to George Collett at New Haven July 8. Collett took the first half mile by a wheel in 1:24, Lawson the second with ease in 1:29. The third heat was also a slow one for two laps. On the last two Collett drew away and held a small lead, Lawson pushing him hard. Collett won by four inches in 1:28. Hurley had an uphill fight to pull down a lead of ten yards from F. Ernst in the last lap of the ten mile amateur event, but he negotiated his task and won by a yard in 24:31 1-5; F. Ernst second, Stander third, George Reid fourth.

At Providence, July 2, Hall won the three cornered twenty-five mile paced race, defeating De Guichard by two laps and Nelson by eleven laps. The Frenchman led for the first three miles, when he was passed by Hall, and the latter was not headed until the eighteenth mile, when De Guichard regained the lead and held it for five miles. His pace was too hot, however, and he lost his tandem and the race in the twenty-third mile. Nelson had bad luck with his motor. The distance was made in 37:58.

Major Taylor arrived here on Tuesday on the Kaiser Wilhelm der Grosse. He left in the evening for Pittsburg, and will ride on the N. C. A. circuit this summer. Taylor has been abroad about four months, and had a fairly successful trip. He won thirty-eight races out of fifty-three starts, riding in Germany, Holland, Belgium, Italy, France and Switzerland. He reports great interest in cycle racing in Europe.

In a twenty mile paced race at Pittsburg July 7 between Freeman and Hall, in which the latter had half a mile handicap, Freeman broke the world's record for twenty miles, doing the distance in 29:08 4-5, as against Elkes's time of 29:19. Freeman's time for five miles was 7:09 2-5; ten miles,

14:28 2-5; fifteen miles, 21:47 2-5; twenty miles, 29:08 4-5.

Forty-nine of sixty-eight entries started in the Elizabeth-Rahway (N. J.) twenty-five mile road race on July 4, the event being promoted by Joseph McCullum, Rahway's wideawake dealer. He offered no less than seven high grade bicycles as prizes.

George Green, a 19-year-old grocer boy, of Rahway, won by ten lengths, with a closely packed bunch pursuing him. He received six minutes' handicap, and his net time was 1:6:20. He was followed in order by David Long, Pictou, N. S. (six minutes); Otto Hardifer, Passaic (six minutes); Albert Davidson, Brooklyn (seven minutes), and Joseph Delner, Westfield (six minutes).

The three time prizes fell to scratch men. Edward Forrest, K. C. W., won first, with Charles W. Dodd, Elizabeth, second, and Robert Myers, Paterson, third. Forrest's time was 1:02:25. The timing arrangements were very faulty, and there is no certainty that the time prizes were properly awarded. The timers seemed to consider that the scratch men were bound to win, and paid no heed to the others.

Hugh McLean had a narrow escape from serious injury in the twenty-five mile paced race against Howard Freeman at Providence on Wednesday. On the last lap of the last mile, when about seventy-five yards from the tape, McLean tried to pass Freeman. The latter's steersman lost his pedal and for an instant lost control of his machine. The two motors touched and McLean was thrown. He shot up into the air and then, striking heavily, rolled down the bank. He picked himself up and rolled his wheel across the tape. He won the race by seven laps. He was badly bruised and lacerated, but no bones were broken.

Elkes rode 40 miles 400 yards in his one hour race with Walthour at Boston on July 8. Walthour retired from the race after riding 36 miles. His wheel went wrong in the seventeenth mile and again in the twenty-first. On the last lap of the thirtieth mile the tire on the rear wheel of his tandem was punctured.

At Worcester, July 9, Elkes again defeated Walthour in a twenty mile paced race. Two starts were made before the race was on. Elkes covered the twenty miles in 30:35 3-5, and led at the finish by two-thirds of a mile.

At the Crystal Palace, London, on June 19 H. Martin, on his Excelsior motor bicycle, broke the world's one mile amateur motor bicycle record; time, 1 min. 25 4-5 sec., the previous best time being 1 min. 35 2-5 sec.

Hall won from King by a full mile in a twenty mile paced race at Atlantic City, July 9, in 32:01 4-5. A pursuit race between Fenn and McConnell was won by the former in one mile, the time being 2:25 1-5.

TALES OF A TYRO

Even Dealers Discouraged his use of Motor Bicycle—Failed to Find Trouble.

Having a great desire the past two years to own a self-propelled vehicle, and as the lowest priced automobiles were beyond my reach, I soon arrived at the conclusion that the only type of machine that I could possess would have to be a motor bicycle. Having a few friends in the bicycle and automobile business, I thought it would be wise to interview them and get their opinion whether or not they considered the motor bicycle a success.

bicycle made, and claimed everything on earth for it, I was still as far from making a selection as when I started to interview my friends in the business.

I thought very carefully over what the fourth man interviewed said—they were all right when they ran—and I came to the conclusion that it then must be only a question of picking out the best on the market and keeping the same in running condition, if such a thing was possible. Having seen quite a number of motor bicycles on the roads around the city here this season, most of which were running when I saw them, I started an investigation to see which ones would always run when you wanted them to and which ones would not.

Every rider of a motor bicycle whom I

dear in the long run, but such was not the case with me this time. At last I made up my mind to invest in a motor bicycle which I thought from what I had read and seen was the best motor bicycle on the market.

I purchased a well known make, 1902 model. The machine has a motor of about 2 horsepower, mounted in the seatpost mast, driving the rear wheel with a round twisted rawhide endless belt. The motor is supplied with fuel through a simple vaporizer. A small three cell dry battery in connection with an induction coil and plug is used for ignition.

I have only had the machine a short time, but long enough, I think, to bring out any weak points or defects the machine has. It has been used close onto 1,000 miles over

SCENES OF THE BOSTON-NEW YORK ENDURANCE RUN.



WHY DID HE WALK?



HENDEE LEAVING HARTFORD.

The first one whom I approached on the subject said with a laugh, "If you get a motor bicycle you had better go into the express business, so you can have an express wagon at your service every time you go out, to bring back the machine, as that is the way they generally come back." The second man said: "Did you ever see a motor bicycle that would run when you wanted it to?" The third said: "A motor bicycle? They are only good to put in the store window to attract people." The fourth said: "Motor bicycles are all right when they run."

The above comments, with a few more like them, were very discouraging to a beginner. I sent to the various manufacturers for catalogues, prices, etc., and I studied over each catalogue carefully, and as every maker said his was the only practical motor

approached, when asked how he liked his machine and if he had any trouble with it, etc., would reply they were fine—never give any trouble to speak of, etc., outside of a few little things, such as a broken or defective spark plug, weak batteries, engine runs hot sometimes and stops, loses its compression, broken belts, carburetter not working right, frame or forks breaking, coaster-brakes getting jammed. All or most of these terms sounded like so much Greek to the average layman or non-expert, but in spite of the above I still thought that motor bicycles are all right when they run, as I was told before.

The above experience, extending over a period of about two months, was enough to drive the average man to the so called "funny home," but I finally decided that experience is the best teacher. It may be

all kinds of roads, and at various speeds, from its slowest to its highest. Batteries are still in fair condition, and motor and machine are as good as new.

Now, in regard to my troubles. My first run was fifty-six miles. Toward the last the engine started to miss off and on. Upon examining the same I found that my plug was cracked in three places. Having an extra porcelain with me, I went into the first repair shop I saw and by using a vise and wrench put in the new porcelain and repacked it with asbestos. I am still running on the same plug and with no trouble at all.

The second trouble I experienced, after the machine had run about two hundred and fifty miles, was due again to the ignition. The circuit breaker screw insulation was cracked, permitting the current to ground

in the circuit breaker cover. I made up two new fibre washers and since then have had no further ignition troubles.

Another time, when half a mile from home, I ran out of gasoline, and the motor would not mote any more. These are the only troubles I have had up to the present time, outside of the lubricating oil tank leaking; this leaked when I first filled it, and was easily remedied. The motor, vaporizer, and in fact the whole machine, have given me no trouble whatever. I am more than pleased with the motor bicycle, and I now consider a modern, up to date motor bicycle as reliable as an ordinary pedal driven bicycle, provided it is handled by a person who will use a little common sense and judgment.

I have very little spare time for riding my machine—half a day Sunday, when I take a fifty or seventy-five mile run, without any thought of trouble, and an hour or an hour and a half mornings before breakfast four or five times a week, when I cover from fifteen to twenty-five miles. Some evenings I go out for a short spin.

My machine is controlled by one lever, which raises or closes the exhaust valve and retards or increases the spark. The operation is very simple, and I have put dozens of people on my machine—bicycle riders who never rode or saw a motor bicycle—and they had no trouble in handling the machine. The only trouble is to get them off it again.

F. B. W., New York.

Tourist Cars on the Nickel Plate Road.

Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fridays. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest ticket agent, or write A. W. Ecclestone, D. D. Agt., 385 Broadway, New York City. ***

Through Sleeping Car Line to Grand Rapids, Mich.

A Pullman Sleeping Car of latest construction is now attached to New York Central train leaving Grand Central Station at 4:00 p. m., daily, running through over the Michigan Central, arriving at Grand Rapids at 12:55 p. m., next day, connecting in Union Station for all points in Western Michigan. For information and sleeping car reservations inquire of New York Central Agents. ***

THE METROPOLE MEET

Rain Kept Away Thousands but Thousands Were There Nevertheless—The Results.

Designed to prove an event out of the common, the Metropole Cycling Club's postponed race meet at Manhattan Beach on the 5th fulfilled expectation. Admission being by invitation and some 50,000 invitations having been distributed, a crowd of from 12,000 to 15,000 was anticipated, but at the noon hour the clouds darkened and a heavy rain fell. On three subsequent occasions during the afternoon fierce rain squalls swept the vicinity and temporarily interrupted the sport. Despite these conditions the attendance, some 7,000, was the largest that has attended a meet hereabouts in several years, and a good natured, enthusiastic, oldtime crowd it was. Even when the people in the bleachers and in the infield stormed the grandstand to obtain shelter from the rain the greatest good humor prevailed. What the attendance would have been had clear weather prevailed may be left to individual speculation.

The racing itself, in spite of the many interruptions and the long delays rendered necessary thereby, was of a high order—at times even sensational. It was also marked by the temporary eclipse of the stars—Kramer, Lawson, Martin, Bald, Hurley and others failing to win as usual.

In both the one-third mile and the five mile professional the first raters were scored on heavily. Kramer was pocketed in the former, and had to virtually quit on the stretch, finding it impossible to get through. Fisher won in fine style, closely followed by Kimble, while the third and fourth men were difficult to pick, so closely bunched were the others.

The back markers were unable to close up the gap that yawned between them and the bunch in front in the five mile professional—the Metropole Sweepstakes. The latter worked in harmony, sharing the pace and effectually forestalling all efforts to overtake them. In the scramble home Tom Butler, from the 200 yard mark, proved to have the most speed and captured first money. Jed Newkirk and Saxon Williams, both starting from 250 yards, finished second and third, with Menus Bedell (300 yards) pushing them hard. The influence of the lap prizes was shown in the time, 10:56 3-5, which was fast for the track and with the wind.

In the Columbia Handicap, at two miles, the battle among the amateurs for the motor bicycle was a fierce one. Largely through the efforts of two 90 yard and one 100 yard men the efforts of the short mark men to get up were withstood. These men, J. E. Achorn, D. J. Quille and Lewis Bennett, were rewarded by landing first, second and third places, respectively, in a fast final heat.

To the surprise of the cognoscenti, Teddy Billington took Hurley's measure in the

Yale Handicap at five miles, the latter being able to get no better than third, H. D. Hooper slipping in between the two. The Orient Tryout—the novice race—proved to be a fairly easy win for A. L. Bernstein, T. Alexander finishing second.

Paced racing has come to be almost altogether a matter of motors, and the one contested at the present meet, a three cornered twenty mile race, proved no exception to this rule. Hall had a big motor, consequently he outclassed his competitors. He took the lead at the start, and the race was never in doubt. Munroe was lapped once before an accident to his pacing machine threw him still further back, while Lawson was a mile and a third to the bad when the finish came. Barring Munroe's accident, caused by the breaking of his pacing machine, threw him down, but he was not injured, and, remounting, finished the race. Time, 31:2 1-5.

Motocycles in Paris-Vienna Race.

In the race from Paris to Vienna, which started June 26 and finished June 29, of the 214 starters there were 14 motor bicycles, 4 tricycles and 1 quad. The last five machines were all De Dions and each driven by a 7 h. p. motor. The distance is 857 miles, and the first day's run from aris to Belfort, near the French frontier, was 253 miles, the longest section. As soon as the Swiss frontier was crossed both cars and cycles traversed Switzerland at low speed and without racing, no more feats of speed being permitted till Switzerland was left behind. The Swiss tour occupied the second day, and the third and fourth days were devoted to crossing Austria, the average for each day being, roughly, 200 miles.

The best time in this class on the first day from Paris to Belfort was made by Bardeau, who covered the distance in 6:17:02. This allowed for the passage of the neutralizations.

Osmont on a similar machine, weighing 25 pounds less, was a quarter of an hour later, and the quad, which only weighed 70 pounds more than Osmont's machine, took 8:43:00.

The motor bicycles, which were restricted in weight to 110 pounds, included three Clements, all of 3 h. p., two of them weighing 96½ pounds, and one 105 pounds; two Werner machines on 2 h. p. nominal, and scaling 101 pounds and 99 pounds, while besides these were three 3 h. p. Laurin-Klements, at 110 pounds each; a Rivierre, 2¾ h. p., 110 pounds; two Bruneaus, a 2 h. p., at 86 pounds, and the other 3 h. p. at 99 pounds, and a Lamaudiere, 3 h. p., at 106 pounds.

The fastest tome was done by Bucquet on his Werner, he being the only bicyclist to get inside eight hours, his actual time being 7:56:30.

The second day, as it included the tour through Switzerland, was of less importance, and the first to complete the 312 kilometres from Belfort to Bregenz was Savariaux, on an unknown make.

Osmont's time for the second day was 10:40:00, but he had so much in hand on the first day that his total time from Paris was two hours in side the best bicycle performance.

The third day presented a most trying course of 337* kilometres, from Bregenz to Salzburg, being of a mountainous character and desperately rough.

Over this section Savariaux again distinguished himself, being the ninth arrival, and only beaten by some of the fastest cars. The last day, Salzburg to Vienna, gave a route of 335* kilometres, and the winner was Bucquet.

Owing to calculations to be made by the officials, the times from Bregenz on have not been received.

VARIABLE GEARS

What They Mean in the Pleasures of Riding a Bicycle Under Various Conditions.

The next big improvement in the bicycle to which earnest thinkers are looking forward is the application of some simple method of altering the gearing to suit the varying conditions, and it is generally considered that the paper recently given before the members of the Cycle Engineers' Institute will have the effect of urging makers along the right path, says Cycling. We have consistently and persistently advocated variable gearing, and we are glad to note that opinion in the trade is surely, if slowly, veering in the same direction.

The peculiar point in favor of a change gear is that it must appeal to practically every class of rider. The tourist, the potterer and the speedy clubman; the gentle sex, the weak and the muscular among the stern sex, each and all will have need for such a device, for the simple reason that gradients, wind resistance and other conditions are continually changing, while even the rider's personal power is by no means a constant quantity. But, as was so in the case of the free wheel, there is one individual to whom variable gearing will not be of much use. The free wheel has not been adopted by that class of rider which rides in bunches at a fast rate. In these particular circumstances it was found that a certain element of danger was introduced by the loss of the ability to back pedal.

Very minute variations of speed were wanted by this class, and none would give the time or take the risks necessary in practising under the new conditions. So the free wheel was refused, but the brake was accepted, and it now happens that the very men who, years ago, set the fashion of the brakeless machine are now among the advocates of brake power. The hardy road rider—the eighteen or twenty an hour clubman—no longer sets the fashion, nor are his methods and manners aped by the “would-be's,” as was the case when we first took to cycling; he has long since ceased to be the god on the wheel, hence his dislike of the free wheel has not hindered its adoption by the other classes.

With the variable gear, the particular kind of rider who will not want it and will accordingly decry its merits, is he who keeps to the flat roads in his limited districts. As he never goes long distances and scarcely knows the appearance of a hill, he is quite unaware that conditions are prone to variation. But his opposition will do no harm, because he will be that kind of exception which unfailingly proves the rule. Gearing at the present day is nothing more than a compromise, and compromises are like averages—they are never satisfactory except at the midway point.

On slight up grades a rider might like to drop to 61, while on a really stiff climb he would do best with 52. Because he can only get one gear he would have to adopt about 66 or 68, and he must ride that on the flat, or up a gruelling hill, with the wind ahead or astern; in the morning, when he is fresh, and could do with six or eight inches tacked on; and in the evening, after a hard day's ride, when he is probably craving for no gearing at all—when even a gearing down would not appeal to him.

It is because a compromise can seldom fit in with all the conditions on a ride that the expert rider will welcome a device that will enable him to suit the transmission to the needs of the moment. But, just consider what such a device would mean to the inexperienced, who alone is able to ascertain what gearing is suited to his powers, but yet who has not the knowledge wherewith to define



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

his feelings and thus enable others more expert to point to that one gear which would be his most suitable compromise.

There are many riders to-day, mostly ladies, who are riding in discomfort because they are quite unable to tell what is wrong, and equally unable to explain the difficulty to one who could suggest the way to avoid it. The knowledge can only be gained by personal experiment and experience. But if the first cycle to be purchased was provided with three or four changes of gears and the principles of their use were explained to the novice, he or she would very soon be able to select that one which was the most useful, and could thereafter raise or lower it according as the conditions were favorable or otherwise.

The form of variable gear which would be most popular would offer three or more gears and be entirely independent of any other device. Although any of the two speed gears now obtainable afford a step in the right direction, and will probably meet the requirements in a good many cases, they do not go far enough for those whose riding is of a varied character.

A short tour, even a week-end outing of, say, a hundred or a hundred and fifty miles, will at least call for three changes, while, if the number could be five or six, the journey would be done with much less fatigue, and with, consequently, much greater enjoyment. No doubt the devices with a wide range of gears will come in the course of time, but for the present we are only able to look forward with any confidence to a new three speed gear, which is promised to be ready for the public in the course of a few weeks.

The seven speed gear shown at the last Stanley show was to be ready by April, but time is slipping by, and doubts are beginning to be felt as to what has become of it. Probably the difficulties that have prevented the realization of the hope of the inventor have been those which always arise in the early stages of manufacture, only to be got over by patience and determination. We hope that this is the case with the seven speeder, because it is a fine idea.

The difficulty that a rider who has decided to try a change speed gear usually finds himself in is that of selecting the combination that will give him most useful service. With a three speed gear the task is lessened, and it may be said to disappear entirely in the case of the promised seven speeds. With three speeds the middle one should be slightly above that which would be chosen as a single “compromise,” because it would be the gear that the rider would use under normal conditions, and it need not be subject to any consideration for bad hills, because the lowest gear could be used for their negotiation. The highest gear should not be very much in excess of the middle gear, because it would only be used for fast work on favorable gradients, and with following winds, and so forth.

In the case of the seven speed gear, either No. 4 or No. 5, counting from the lowest upward, should agree with the “compromise” gear, but for districts with a tendency to flatness No. 3 might be the normal, because there would be less need for gears lower than normal. In hilly districts the reverse would apply, and No. 5 or No. 6 would be about normal gear.

In the case of two speeds only, the choice lies between the gear for general use with a lower one in reserve, and the general gear with a higher one. The former is the more advantageous, because it is a greater tax to climb a hill than to descend one at a slow pace, and it is far more important to be able on a low gear to surmount a hill than to drive down fast on a high gear.

The gear for general use may therefore be slightly higher than what one is accustomed to use, because there is a lower gear available for stiff hills. The other conditions of the machine—free wheel, brake, and so forth—should not vary. It is as bad to have a free wheel on one gear and a fixed wheel on another as it would be to have the brake thrown out of action on changing the gear. This kind of thing leads to fatal accidents.

GUATEMALAN METHODS

How one Rubber Plantation is Conducted— Some of the Tools That are Used.

According to René Guérin, director of the Central Laboratory of Guatemala, writing in the *Journal d'Agriculture Tropicale*, the plantation El Baul comprises about 50,000 rubber trees, of which 30,000 have reached a productive stage, being from ten to fifteen years old. Dr. Preuss, by the way, writing two years earlier, mentioned 20,000 trees between the ages of fifteen and twenty years. The soil, very liberally watered, is divided into sandy and black-earth zones, though no difference has been observed either in the growth or the productiveness of the trees planted in the two zones. The vegetation is continuous, but at the beginning of the dry season—March and April, when the seeds ripen—the leaves turn slightly yellow and fall.

The trees growing in the plains furnish at all seasons a latex of the same quality. The trees on the higher altitudes, and which are for this reason less well watered, yield during the rainy season a larger quantity of latex than during the dry season. However, as this latex is less rich in caoutchouc, the true yield is the same. The rubber trees which have developed in the plains, exposed to all weathers, begin yielding seed from the third year. Those growing in the woods develop much slower, and at that age have not reached a height above three metres. But as soon as these have attained the height of the surrounding trees, and receive the sun's rays direct, their development proceeds rapidly and they reach large dimensions and possess exceptional vigor.

In extracting the latex, incisions are made in the bark horizontally, at a distance of $1\frac{1}{4}$ inches apart, so as to not girdle the tree completely. The latex coagulates spontaneously on exposure to the air, and at the end of two or three days the rubber can be gathered from the tree in bands, which, after being washed, may be rolled together into balls. Each tree yields about 125 grammes of rubber (from incisions in the trunk alone, and without the branches), and as the cuts will heal within three months, it is possible to make four extractions each year, giving a total yield of 500 grammes—equalling 11-10 pounds. The annual yield of 1,000 grammes (21-5 pounds) mentioned in Dr. Preuss's report, resulted from making incisions in the branches as well as the trunks, but this involves an undesirable amount of labor.

Much thought has been given on the plantation El Baul to the choice of a tool for incising the rubber trees, with a view to affording a suitable outlet for the latex without cutting into the wood, which contains no latex, and the wounding of which

tends to decay. Dr. Preuss found in use in Guatemala for this purpose a sort of transformed sabre, with the end turned back on itself to form a grooved side scoop. Senor Asturias has had made to order in the United States a tool which is regarded as superior to the old model. The latter comprises a blade of tempered steel—square at the end, about three inches long, and at the top about 1.1-3 inches wide—mounted in a hardwood handle $3\frac{1}{2}$ inches long. The steel blade diminishes in thickness from the handle, until at the other end it does not exceed the thickness of a playing card. The left angle of the blade is turned over so as to form a rounded gutter, about finger wide, and at 45 degrees to the axis of the tool. The left side of the blade is notched right at the gutter, so that the lower end of the gutter projects at that side. The parts that do the cutting are the two sides of the turned over angle.

M. Guérin states that Senor Asturias intends trying a new process of extraction, by employing a vacuum, in the hope of accelerating the flow of latex, and adds: "It would be desirable if other cultivators, intelligent and progressive like M. Asturias, would display the same activity in the improvement of rubber cultivation and the rubber product." In too many cases, however, the collection of rubber is left to the natives, who injure the trees unnecessarily, besides producing a poor quality of rubber by the use of soap or vegetable compounds, whereas by the spontaneous coagulation of the latex, after the complete elimination of the serum, an article of superior quality may be derived from the same trees.

An Attachable Valve Lifter.

There has been placed on the English market a very ingenious and simple valve lifter for motorcycles. The rod of the compression tap is altered to go down to the crank case, and is made to lift a lever which, by a socket bearing, actuates another lever on the other side of the crank case, and so lifts the valve straight up without any side strain. The lifting lever is bent to clear the contact breaker. All the fitting required is to loosen the nuts holding the cylinder down, and to slip the clips of the lifter under the two rear nuts. The rod, of course, has to be adjusted to its new position, but that is very easily done.

Heat Indicating Paint.

In order to indicate when the moving parts of machinery have become excessively heated, a German inventor has devised a valuable kind of paint. It is composed of an amalgam of the iodides of mercury and copper, which composition, as the inventor claims, will turn color when heated. Bearings to which it is applied are red in color under normal conditions, but when a temperature of 140 degrees Fahrenheit has been reached the paint turns black. There should be a big demand for this paint when it is placed on the market.

ANTE-DATED DUNLOP

Indifference of Rubber Manufacturers and a Bump at the Joint Caused Abandonment.

Without regard to Thompson, who invented but did not push a pneumatic tire long before Dunlop, a rubber man writes the *English India Rubber Journal* that he has absolute knowledge of an inflated tire made in 1877, eleven years before Dunlop's made its appearance.

In that year, he says, "a workman employed with Messrs. Atkinson and Phillipson, of this city, invented a four wheeled machine worked by the hands and feet, which used to run daily in fine weather. The wheels were made of wood entirely, and he came to see whether I could suggest anything to do away with the vibration. After due consideration we eventually made him a rubber tire composed of delivery hose 1-inch ply, with the ends joined together by a brass ferrule, into which we inserted a screw of an ordinary air cushion. This screw was brought through a hole bored in the wheel, as now used in the ordinary bicycle. We made four tires for this man. The only difficulty was when the wheels came round and came down on the hard brass ferrule, it rather bumped. We were unable to get any manufacturer to make an air inflated rubber tire at that date, although we tried several. We therefore made up another set of tires of larger hose, and these answered the purpose, except for the "bumping" when the wheel came down on the hard surface. I venture to think these were the first rubber tires made. If you refer to the *Cycling News* many years ago you will find reference to this; also a few years ago a trial was about to be brought off in London between two patentees of pneumatic tires, I was instructed to appear as a witness, having made the tire. The companies came to some arrangement without going to a trial. Had I been called upon, no patent would have been approved."

Transvaal Trade Mark Fees.

The Patent Commissioners in the Transvaal have now issued a list of fees payable in connection with the registration of trademarks in that colony, which are as follows: On application for registration, \$2.50; on registration, \$10; stamp on power of attorney, \$1.25; advertising charges (approximately), \$13.75. These fees show a very considerable reduction on those charged by the late government, which were to some extent prohibitive, and many manufacturers refrained from registering their trademarks in consequence of these high fees. Of course, to the above there are the local agents' charges to be paid, but these are only nominal. Under the new regulation the definition of a trademark has been widely extended.

The Casting of Aluminum.

In giving a few rules for casting aluminum, says the Foundry, pour this metal as cold as possible. Of course, thin castings have to be poured hotter than those of heavier section, but on general principles this rule holds good in all cases. A convenient way of ascertaining the temperature of the metal is as follows: If its color is red, stir with a pig of aluminum until it is white. The melting of the pig will serve as a guide so far. Then dip the end of a cold pig three-quarters of an inch or so into the metal, when the aluminum will chill round the pig, and when the latter is withdrawn from the melted metal remains like a little cup on the surface of the metal. The time required for this chilled metal to melt gives a good idea of the temperature of the metal in the crucible.

Use sand as dry as possible, and avoid sponging a mould. A little filing on the casting where the mould tears up is more to be preferred than a lost casting. Small bodies of sand nearly surrounded by metal, such as the centre cores of small set collars, are almost certain to blow if the sand is a little damp.

Use large sprues and heavy gates. In some cases, however, it will not do to put a large gate on a thin casting, as the gate sometimes draws from the casting.

Pour rapidly. Just "dump" the metal in. Aluminum is not as liable to wash away portions of the mould as other metals on account of its lightness.

Ram the moulds very softly. It is not necessary to ram these nearly as hard as for iron, as aluminum is but one-third as heavy. Soft ramming will very often prevent the breakage of castings when they "set." The reason for this is that aluminum, just after it solidifies, is very weak and crumbly, and will scarcely bear its own weight. Vent all moulds well.

Generally speaking, cut the gate into the heaviest part of the casting. Top gates are often best. Many castings for patterns, such as pulleys, can be top-gated into the centre core prints. Very often it becomes necessary to use risers to feed the heavy parts of the castings. An observance of the rules here enumerated will generally insure sound castings.

An Oxy-Acetylene Blowpipe.

An oxy-acetylene blowpipe is described by M. Fouché in the Bulletin of the French Physical Society. The flame is formed by the combustion of a mixture of one part of acetylene to 1.8 oxygen, and in order that the explosion may not travel back into the blowpipe a jet velocity is required, due to the pressure of a water column four metres in height. The flame melts most metals readily; it will solder iron and steel, and even silica and lime are melted by it. With a reduction of the proportion of oxygen, the flame becomes luminous, and on falling on lime the free carbon goes to form carbide of lime.

The Week's Exports.

Last week was one of heavy exports. England and Denmark, with some \$7,500 each, topped the manifest; Australia, \$6,780, and Africa, \$4,471, the next largest buyers. The record in full follows:

Antwerp—2 cases bicycles, \$60; 35 cases bicycle material, \$2,171.

Aalesund—1 case bicycles, \$20.

Amsterdam—13 cases bicycles, \$400.

Bremen—19 cases bicycle material, \$1,043.

Bergen—33 cases bicycles and material, \$1,784.

British Australia—208 cases bicycles and material, \$6,780.

British West Indies—37 cases bicycle material, \$763.

British Possessions in Africa—65 cases bicycles and material, \$4,471.

Copenhagen—132 cases bicycles, \$2,795; 95 cases bicycle material, \$4,660.

Cuba—20 cases bicycles, \$273.

Christiania—1 case bicycles, \$30.

Dutch West Indies—4 cases bicycles and material, \$134.

Dutch Guiana—24 cases bicycles and material, \$813.

Ecuador—1 case bicycles and material, \$25.

Gottenburg—3 cases bicycles, \$75.

Geneva—1 case bicycles, \$40.

Glasgow—4 cases bicycles, \$120; 2 cases bicycle material, \$60.

Genoa—12 cases bicycle material, \$620.

Hayti—1 case bicycles, \$32.

Havre—19 cases bicycles, \$278; 5 cases bicycle material, \$316.

Hamburg—3 cases bicycles, \$75; 22 cases bicycle material, \$660.

London—91 cases bicycles, \$3,433; 30 cases bicycle material, \$1,373.

Liverpool—145 cases bicycles, \$2,720; 6 cases bicycle material, \$135.

Lausanne—20 cases bicycles, \$300.

Liege—5 cases bicycle material, \$225.

Marseilles—1 case bicycles, \$60.

Moscow—1 case bicycle material, \$10.

Newfoundland—6 cases bicycles and material, \$194.

Peru—1 case bicycles, \$60.

Portuguese Possessions in Africa—2 cases bicycles and material, \$107.

Rotterdam—17 cases bicycles, \$575; 23 cases bicycle material, \$662.

St. Helens—2 cases bicycles, \$80.

Southampton—1 case bicycles, \$35; 12 cases bicycle material, \$388.

Stockholm—1 case bicycles, \$20.

Tunis—4 cases bicycle material, \$110.

Composition for Welding Steel.

A composition for welding steel which has just been patented employs iron chips 85 pounds, boracic acid 15 pounds, gelatine 6 ounces, water 1½ quarts. The gelatine is dissolved in the water by heating and added to the chips and thoroughly mixed. Then the acid is added and mixed thoroughly. While borax and other ingredients have often been used in these compositions, boracic acid has never been employed.

Story of a Flaw.

"What is a flaw in a piece of metal? What causes it to develop, and how long can it go without developing?" These were the questions the old rider asked the Bicycling World man, and he was evidently in earnest.

"I'll tell you why I ask," he went on. "I have a machine that is six years old, and is as sound to-day as when it came out of the factory. The other day I was out on it, and after riding a while I began to imagine that something was wrong with one of the pedals. It felt as if it were bent. I had had no fall, and the pedal had never given me any trouble, so I was at a loss to understand it.

"Before I finished my ride, however, matters got worse, and in climbing a pretty stiff grade the pedal dropped off. I got down and looked at it, and the end of the crank was with it. It had broken off just above the pedal pin opening.

"Now comes the strange part of it. The fracture showed a flaw of the worst kind. Two-thirds of the metal was dark and evidently had been worthless for some time. Only a small portion of the metal was holding, and how that lasted as long as it did is what puzzles me. Now, how long had that crank been that way? Had that flaw been there ever since the crank was made? If so, why did not it break long before? And if not, how is it that there was so little bright metal showing? That is what I want to know."

Taking Care of Their Tires.

In these degenerate days, when the only way for the racing man to obtain the tires that are so necessary in his business is to pay for them, he is driven to unusual methods to take care of them. There is no more riding of racing machines to and from the track, either by their owner or his trainer. The latter is obliged to walk the machine, and woe unto him if he ever disobeys orders and steals a ride on a nice bit of road.

But even when a machine is walked the tire will sometimes pick up a tack or a sharp stone, or perhaps just the trundling of the machine along the road will expose it to unnecessary danger.

To obviate this the more careful racing men now have tire covers. These resemble big Dunlop covers, and are slipped over each tire, and thus made to take the contact of the ground instead of the tires. The latter are thus completely protected. Nothing is likely to get through the cover to hurt them, and the racing man is no longer obliged to worry lest his tire will go wrong in transit.

To Obtain Summer Trade.

There is a trade in summer as well as in the fall or spring—not so much of it, to be sure, but trade there is, and trade is what every merchant wants. If there is not so much going during the heated term, then there is so much the greater reason why dealers should advertise to catch what is going, says Printer's Ink.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

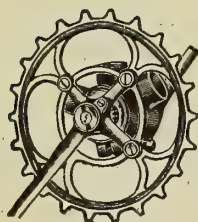
Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

**"D. & J." HANGERS**

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

ABSOLUTELY THE BEST
Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

—AND—
The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY

THE NATIONAL CEMENT & RUBBER MFG COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN CHAIN

NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.**WANTS AND FOR SALE.**

15 cents per line of seven words, cash with order.

FOR SALE—Brand new latest model Marsh
Motorcycle, \$125. E. H. CORSON, New Eng-
land Agent for Merkel Motorcycle, 100 Boylston
St., Boston.

**ELWELL
EUROPEAN MOTOR CYCLE TOURS.***England and France, August 20, 1902.**Great Britain and the Continent starts June, 1903.***F. A. ELWELL, 58 Prospect St., Waltham, Mass.****The Only Tires Fit For
Motor Bicycles—****GOODYEAR****DETACHABLES****GOODYEAR TIRE & RUBBER CO. AKRON, OHIO**

You all know what the diamond stands for among
precious stones. You can't well afford
not to know that

D-I-A-M-O-N-D • T-I-R-E-S

occupy the same plane among tires

DIAMOND RUBBER CO., Akron, O.**IDEAL HANDLE BARS**

made in all shapes with extensions in 2½ inches, 3½ inches and
5½ inches forward throw. Also with straight stems, with and
without internal binders. The cheapest bar on earth, quality
considered. Sole manufacturers

IDEAL PLATING CO.,**3 Appleton Street, BOSTON, MASS.**

ALL ROADS ARE EASY WHEN THE

**STAR
BALL
RETAINER**

IS USED.

With millions in daily use, it has stood the test for
more than five years, and is adaptable to ball bearings of
any kind.

If you are users of ball bearings we would be pleased to hear
from you and mail you our catalog with the latest information,
which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.**The Admiral**

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., Marysville, Ohio.**ARNOLD, SCHWINN & CO.**

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.**THE CROSBY COMPANY,**

BUFFALO, N. Y.,

Sheet Metal Stamping.**REGAL BICYCLES.****STEARNS BICYCLE AGENCY,**

General Distributors,
SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,**124 Tribune Building, New York.**

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

Morse Chain Co., Trumansburg, N. Y.

The Week's Patents.

703,492. Shaft bearing. William B. Spencer, Chicago, Ill. Filed Oct. 12, 1899. Serial No. 733,388. (No model).—Claim: The combination of a crank hanger having enlarged end portions provided with exterior screw threads, the interiorly threaded sleeves arranged on the exterior of the end portions of the crank hanger and extending outward beyond the same period and provided with inwardly extending annular flanges located between the ends of the sleeves at points beyond the ends of the hanger, and having their inner edges arranged substantially in alignment with the body portion of the hanger and forming ball races with the outer portions of the sleeves, a crank shaft extending through the hanger, cranks provided with hubs secured to the crank shaft and provided with ball race grooves, the inner portions of the hubs extending into the sleeves beyond the intermediate flanges and the outer portions of the hubs extending over the said sleeves and arranged on the exterior of the same, balls located within the ball races of the sleeves and in the grooves of the hubs, the jamnuts arranged on the threaded end portions of the hanger adjacent to the inner ends of the sleeves, and washers interposed between the jamnuts and the sleeves, substantially as described.

703,613. Bicycle driving mechanism. Thomas C. Robinson, Boston, Mass., assignor of one-half to E. Baker Welch and H. Augusta Welch, Cambridge, Mass. Filed Dec. 26, 1899. Serial No. 741,587. (No model).—Claim: (1) In a bicycle driving mechanism, the combination of a driving shaft, a crank attached thereto, a pedal, and means for guiding said pedal in a path eccentric to the driving shaft, and a compensating connection between the pedal and the crank, said connection being located on the opposite side of the centre of the pedal path from the said pedal and adapted to diminish the upstroke velocity of the pedal relatively to its downstroke velocity.

703,632. Cushioned bicycle frame. Norman B. Zimmerman, North Tonawanda, N. Y. Filed Dec. 14, 1901. Serial No. 85,987. (No model).—Claim: (1) The combination of a wheel fork and a hollow stem, each carrying a hinge leaf or plate, a pintle connecting said leaves on the rear side of the fork, a tie-bolt passing centrally through said leaves on the front side of said pintle and extending into the stem, a cushioning and return spring applied to said bolt within the stem, and main cushioning spring arranged between said hinge leaves on opposite sides of said tiebolt, substantially as set forth.

703,759. Electrical sparking device. Alfred C. Brown, London, England. Filed Dec. 21, 1901. Serial No. 86,763. (No model).—Claim: (1) The combination with a sparking plug having a metallic body through which one of the electrodes passes, of a tubular condenser comprising two metallic tubes, one of which is in immediate metallic union with the body of the plug, while the other is contained within the first and is in direct connection with the wire or conductor terminating in the other electrodes of the device.

703,891. Cycle saddle attachment. John B. Brooks and John Holt, Birmingham, England. Filed Feb. 15, 1902. Serial No. 94,255. (No model).—Claim: (1) In a cycle saddle attachment, the combination of a clip or body portion, a split sleeve or lining for said body portion, said body portion being angularly adjustable on said sleeve, means for contracting said body portion and sleeve, and means for connecting a cycle saddle to said body portion.

703,907. Bicycle lamp lock. Augustus Fellows, Washington, D. C. Filed Nov. 6, 1901. Serial No. 81,322. (No model).—Claim: (1) A device of the class described comprising a band whose sides are arranged normally parallel throughout their entire length, lamp-connecting fingers formed integral with and at one end of the band, said fingers being arranged one at the top and the other at the bottom of the said end of the band, a reinforcing plate carried by the said end and the said fingers, fastening means arranged at the opposite end of the band and means connected with the band for forming a loop at each end thereof.

OILERS.

"PERFECT"



25c.

"GEM"



5c.

"LEADER"



10c.

"CROWN"



5c.

"STAR"



10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs., 240-2 W. 23d St., N. Y.

ANY CYCLIST CAN GET ALONG WITHOUT A CUSHION FRAME

but he doesn't know
how much pleasure he
is missing.

It is the

Dealer's Duty

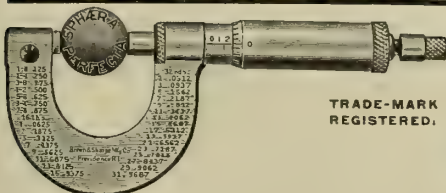
to impress them with
the fact.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.



STEEL BALLS

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

- That every ball is a perfect sphere.
- That every ball is within 1-10,000 of an inch of exact size.
- That the balls are made of the best quality of true crucible tool steel.
- That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

DEALERS.

WE CAN MAKE YOU IMMEDIATE SHIPMENTS IN

BICYCLES

that retail at \$15 to \$20

If you are bothered in getting shipments
from factories, write us for
catalogues and samples.

PRICES RIGHT.

E. P. BLAKE CO., 57-59 Sudbury St., Boston, Mass.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

461 Broadway • New York 435 Vine St., • Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburg
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., • Buffalo 17 Campus Martius, Detroit
212 Clark St., • Chicago 2 King St., East, Toronto, Ont.



The Authority of the Cycle World
RELIABLE NEWS
— ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.
Unbiased opinions on mechanical matters.
WEDNESDAYS, ONE PENNY.
Through all Bookshops and Newsagents or from the
Publishers
ILIFFE & SONS Limited.
3, St. Bride Street, London, E.C.
and HEATFIELD STREET, GLASGOW

THE BICYCLING WORLD

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines.
A. H. HANSON, G. P. A., Chicago

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, July 17, 1902.

No. 16

NEW YORK'S JUBILEE PARADE

**Bicycle's 25th Anniversary Celebrated—
Clubs Make a Wholesome Showing.**

New York witnessed a bicycle parade on Saturday last—the first in quite a term of years. It was designed to commemorate the twenty-fifth anniversary of American cycling, the first bicycle having been made, the first bicycle store having been established and the first cycling publication—that which is now the Bicycling World—having been inaugurated in 1877, just twenty-five years ago. The turnout was styled the Silver Jubilee Parade.

The celebration was first undertaken by the Metropole Cycling Club. It was full of picturesque and impressive possibilities, but after canvassing the situation and realizing that the apathy that existed made an appropriate demonstration unlikely, the project was abandoned. Some two months since it was taken up by a number of individual cyclists, who were led on by glowing promises of money support and by unwarranted assurances of what Colonel Albert A. Pope would do, given by one of his overzealous admirers. Colonel Pope was promptly named for grand marshal, and as promptly declined the office.

When the clubmen who had become interested in the affair encountered the apathy felt by the original promoters, and realized that the promises made them contained more sound than substance, the fate of the parade trembled in the balance, and but for the strenuous efforts of Joseph Oatman, president of the Associated Cycling Clubs of New York; the chairman of the committee in charge, E. J. Willis; F. E. Moskovics, M. L. Bridgman, George C. Wheeler and a few others, the entire project would have collapsed pitifully. It is due these men to say that they saved the good name of cycling from a smirch it could ill afford.

Under the circumstances, the parade may well be written a creditable affair. While it may have suffered by comparisons with the events of previous years, and the less said of the unattached and ununiformed divisions the better, those clubs that turned out did themselves proud and left nothing but whole-

some impressions. They looked well and behaved as well as they looked; there were few boisterous "kids" in their ranks. The fact rendered the award of prizes no easy task.

The parade was headed by a detachment of bicycle police, followed by Chief Marshal Oatman and his staff. Then came the band of music in two automobile trucks. The trucks were trailed by a handful of the old guard, who rode under a banner inscribed "Veterans 1877—1902." Will R. Pitman, Alex Schwalbach, Harry J. Hall, Sam T. Clark and F. M. Frobisher made up the little party, into which a young woman who scarcely dates back to the 70's had smuggled herself, all unconscious that it was a display of years and gray hairs.

The division of motocyclists, of which E. J. Willis, in black kid from tip to toe, was marshal, was next in line, and was, of course, a feature of the parade. There were twenty-eight of them, twenty-one being members of the New York Motor Cycle Club and five of the Alpha Motor Cycle Club, of Brooklyn. The snail's pace played havoc with their formation.

The Century Wheelmen, in tan coats and white duck knickerbockers, made a splendid appearance. The same is true of the Calumet Cyclers, a negro club, wearing blue coats and white knickerbockers. The Ianthia Wheelmen, another colored organization, in drab uniform, was also prominent. The Royal Arcanum Wheelmen and Prospect Wheelmen, both in drab, and the Greenwich Wheelmen, in blue, were as pleasing to look upon. The picturesque features of

(Continued on next page.)

Webster Will Sell Peck's Assets.

Ralph D. Webster, manager of the Eclipse Mfg. Co., has been appointed trustee in bankruptcy for William H. Peck, the veteran dealer of Elmira, N. Y., who failed some four weeks since, with liabilities of \$14,000. By order of the court, Trustee Webster will dispose of the assets at public sale on Friday next, 25th inst. The stock is new, varied and attractive, comprising a number of high grade bicycles and tires, to say nothing of cheaper goods, and as Webster will sell either in bulk or in lots to suit purchasers and is prepared to receive bids by mail, the rare bargains in sight should not lack bidders.

WILL TEST THEIR ECONOMY

**Fifty Miles Contest Which Will Shed Light
on Cost of Operating Motor Bicycles.**

While the air is still charged with motor bicycle interest resulting from the recent Boston-New York endurance run, the New York Motor Cycle Club has become imbued with the spirit of the times and fixed a 50-mile economy test for Saturday, August 9, next.

It will be held on the Manhattan Beach track, in conjunction with and immediately preceding the regular race meet scheduled for that evening. The test will be started at about 12:30 p. m., and while economy of fuel and not speed is the object, a time limit of three hours has been fixed.

Gold, silver and bronze medals are the prizes offered. They will be awarded, of course, to the respective riders using the least quantities of gasoline. Entries will close August 5 with R. G. Betts, chairman, 154 Nassau street, New York. The entry fee is \$1, and entries are limited to bicycles equipped for pedal propulsion.

A test of the sort will do much to settle many disputed questions and shed clear light on the cost of operating motor bicycles of varying horsepower run at varying speeds.

Unusual Vacation Trade.

From the reports of the several dealers in this city who obtain most of it, the vacation trade this year has been much larger than usual. This trade is one that follows the closing of the schools and marks the exodus to the summer resorts.

Saddle Prices Affected.

While it has risen by easy stages, the price of heavy leather is now so high that it has had an appreciable effect on the price of saddles, particularly those of the higher grades.

Indians in New York.

The Hendee Mfg. Co. has established temporary headquarters in this city at 103 Reade street. George W. Sherman is in charge, and his Indian motor bicycle is being kept busy by prospective customers.

NEW YORK'S JUBILEE PARADE.

Continued from preceding page.

the parade were, however, the Century Road Club Association, in blue and yellow sweaters, and the Caledonian Wheelmen, in Scotch kilts.

But two of Brooklyn's many clubs crossed the bridge—the Sutton Wheelmen and the Howard Wheelmen. They hardly compared in appearance with the New York organiza-

effect, and in front there were two pairs of white doves that seemed to be drawing the white and silent vehicle.

In the grotesque division there were the usual clowns, Reubens, Indians, tramps, etc., two on high bicycles and one on an old bone-shaker of the 60's.

The prizes were awarded as follows:

Club of 150 to 200, Century Road Club Association; club of 50 to 100, Century Wheelmen, of New York; clubs of 50 or less,

cycle—C. Mankowski, N. Y. M. C. C., the only man to ride without a coat or automobile cap, first prize; C. H. Martin, of Milwaukee, second prize; J. C. Tanty, N. Y. M. C. C., third prize.

Most grotesque costume—E. A. Wiel, a frog under a toadstool, first; C. T. Vining, a blonde soubrette in pink and green, second prize, and George Siebert, a farmer, who wore a linen duster and rode the bone-shaker, third prize.



FOUR VIEWS OF NEW YORK'S CYCLING JUBILEE PARADE.

tions, and made it easy for the Bay View Wheelmen, of Newark, N. J., to capture the prize offered for out of town clubs.

There were few women in line and but a small representation of decorated wheels and costumed riders. By far the most pretentious display in the whole affair was that of A. C. Buschell, who won the first prize for the finest decorated wheel. He had a bicycle with spokes, rims and frame swathed in white tulle with dainty reliefs of purple; a big canopy roof, done in white and purple, hung over the rider to give a Cupid's chariot

Royal Arcanum Wheelmen, first prize; Calumet Cyclers, second prize; Ianthia, third prize; Bronx Wheelmen, very highly commended.

Best appearing uniformed club—Century Wheelmen, first prize; Royal Arcanum, second prize; Ianthia Wheelmen, third prize.

Best appearing woman rider—Miss Grace Forbes, first; Miss Bessie Woods, second; Miss Anderson, third.

Best attendance of out-of-town club—Bay View Wheelmen, of Newark, 41 riders.

Best appearing and best managed moto-

The route of the parade was on Fifth avenue from Tenth street to One Hundred and Eleventh street. The reviewing stand was erected at Ninety-sixth street, the judges being General Avery D. Andrews, Mayor Michael J. Walsh of Yonkers, P. R. Robinson, Alderman Armitage Matthews, Reginald Roull, Charles E. Miller, John J. Deitz, Carl Von Lengerke, T. A. Raisbeck and J. J. Worrell.

A conservative count places the total number of bicycles in line at 1,700.

MINNEAPOLIS COASTS

Dealers Association Conducts the Contest Which Produces Interesting Results.

The Minneapolis Cycle Trade Association introduced the coasting contest into that city on Saturday last. From the best accounts Minneapolis enjoyed the novelty and the cycling interests were served by it.

The hill employed was not exactly an ideal one for the purpose. It was short, steep and winding, requiring a cool head and steady hand and keeping the riders out of sight of the spectators until the last turn was negotiated. Despite the fact there were no accidents.

The winners and the distances coasted were as follows:

Bicycles with coaster brakes—W. J. Pettie, on a Diamond bicycle, with Corbin Duplex coaster brake, 1,756½ feet; J. J. Keeley, 1,745 feet; O. T. Wiedman, 1,743 feet; J. A. Ferguson, 1,742 feet; Stub Townsend, 1,731 feet.

Tandems with coaster brakes—P. E. Hawkinson and J. J. Keelep, on an Enterprise tandem, with Morrow coaster brake, 1,818 feet; W. G. and R. L. Dockeray, 1,768½ feet.

Bicycles with fixed gears—E. Munson, ——— feet, first; Stub Townsend, second; C. V. Ferguson, third; Tony Johnson, fourth; W. G. Dockeray, fifth.

Incidental to the coasting contest a braking contest also was held. The tape was placed at the foot of the hill and the men given the word to brake as they touched it. In this event the winners were as follows:

Braking contest—O. W. Thomas, using a Wyoma brake, 45½ feet, first; William Edwards, 46 feet, second; B. Derricks, 47½ feet, third; W. G. Dockeray, 50¼ feet, fourth; Walter Thornhill, 51 feet, fifth.

Cleanly Storekeeping.

The cycle business is not a dirty business, says the Cycle Times, the house organ of Components, Ltd., like the making of soap or candles, and there is no reason whatever why a cycle shop should be in a state of mess and chaos, save the reason that the man who is running it is a bit of a muddler. But if a man is so constituted that he must have rubbish about, he ought to make arrangements to keep it in the room behind the shop or in the backyard. It is out of place in the front windows and the showroom.

A neglected window, with everything in it running to seed, conveys the impression that the man behind is an indifferent or utterly careless workman or business man, given to letting things drift, and not likely to discharge any commission with satisfaction to his customer.

And, mind you, there is the less excuse for this, because the goods that the cycle dealer has to handle are such that with a little dusting and a modicum of taste an excel-

lent and effective show can be made at a trifling expenditure of time and money. I am often surprised, when I see how well some traders make their windows and shops look with a few machines, some handsome showcards and a handful of nickelled goods, that a cycle depot should ever look otherwise than handsome and attractive.

Niggardly With Oil.

"It is due more to good luck than to good management that so many riders escape without trouble to their machines," grumbled the repairer. "They never seem to think that a bearing requires oil at intervals; or, if they do, they never follow up the thought and squirt in the oil hole the few drops of oil that are the life of the bearing.

"In the good old days we were taught to oil 'early and often,'" he went on. "Perhaps we did it too often. But, if so, we were the sufferers and not the machines. The excess oil came out and gave us a little trouble and inconvenience by getting on our clothes, but that was all. Now the bearing is let to run dry, and no one thinks of attending to it until it becomes absolutely necessary.

"Why, more than half the machines brought in here have bearings running without oil. Scarcely a day goes by that we don't take a machine apart and find a perfectly dry bearing.

"If the latter has good stuff in it no harm is done as a rule. But it is more than any one ought to ask of a piece of metal to require it to run without lubrication. I always tell people to put in lots of oil, and even then they rarely get more than is really required."

Russia Will Double Duty.

The drafting of the new customs tariff for Russia has nearly been completed, but its publication is kept back until the German tariff has been settled. It is understood that many of the present industrial duties are to be increased by from 50 to 300 per cent, the average rate being about double the duties now in force. The cycle and motor trades are among those on which the largest increases are destined to fall. The tariff is not a reprisal against tariffs of other countries, but a required source of fresh income and a stimulant for home manufactures, which in spite of all the favorable and protective legislation are neither increasing nor prosperous.

Hansen Makes Another Start.

A. A. Hansen, the Mitchell agent in Minneapolis, started yesterday afternoon on his second attempt to establish a 1,000 mile road record for motor bicycles. He completed the first 100 in 4:14:00, 200 miles in 10:14:20, and was well on the third century at midnight, despite the storm that prevailed.

Syracuse Event Postponed.

The combined coasting and braking contest under the auspices of the Y. M. C. A. of Syracuse, N. Y., which was originally set for the 4th, was postponed until the 26th inst.

POLICEMAN APOLOGISED

How the Motocyclist Rose to the Occasion When Halted by the Cop.

Eventually the courts doubtless will be called on to decide the status of the motor bicycle, that is, to say, when, where and how the laws relating to bicycles apply, and when, where and how those dealing with automobiles may be brought to bear. It is a pretty question which already has given rise to much discussion and some amusing experiences.

One of the latter is related by a New Yorker who journeyed to Brooklyn, where he was stopped by a policeman, who apparently viewed the motor bicycle as an automobile, on which the State laws require that the owner's initials be displayed at the rear of the vehicle.

"Where's yer name on this here machine?" the copper demanded.

The rider saw that argument would be futile and quick wit asserted itself.

"There it is," he said, pointing triumphantly to the nameplate on the cantle of his saddle, and with never a suspicion of a smile.

"You're all right, then," the policeman rejoined, apologetically. "I beg yer pardon for stoppin' yer, but I was only er tryin' ter do me dooty."

The motocyclist of course accepted the apology.

The saddle he was using was a Persons and chanced to be one of those on which that name was inscribed on a nickelled nameplate secured to the cantle.

A rider of a Mitchell affirms that he had a similar experience and escaped argument, if not arrest, by pointing out the name Mitchell which the makers of that bicycle imprint in gilt on their gasoline tanks and battery boxes.

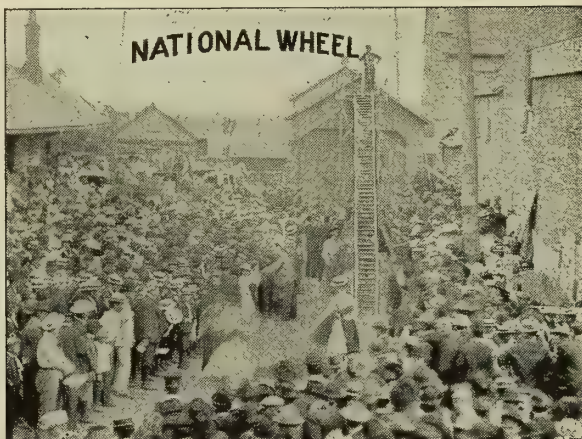
The Value of a Vacation.

Life is short. The part of it spent in making money is, after all, incidental to its principles and intentions, says the Business World.

Don't hesitate to let go of the cash grip a little while—take a vacation.

A few years ago we met as many men who were in the habit of slavery as we did those who had escaped it and were taking vacations.

To-day the feeling is general that "it pays" to get away from the office and shop and factory into new atmospheres. It actually pays a man in dollars and cents to do this, though it is hard to make him take the step under this argument. The truth of it has to be borne in on him after he gets out into the fresh fields, inhales pure air, meets bright minds and gathers inspiring ideas from one and another of those who also have lifted themselves out of the rut of the prescribed into restpaths which, be it known, are not especially prepared and maintained for all the world except business folk.



—LOCAL— ADVERTISING

BY AN

Enterprising Bicycle Dealer.

THE picture tells the story of what interest was created by his efforts and he says he got results. Incidentally he took care that the crowd was well supplied with dodgers mentioning the fact that "he did it on a National" and likewise that the rider announced the fact before he started.

The bicycle that will stand that usage is a good one for a dealer to handle if he wants a "good one." It is not too early to get in line for 1903. A little work done now will bring results latter. Nationals are sold almost everywhere, but where they are not, we want a good, live dealer to handle them.

THE LADDER IN THE PICTURE WAS 85 FEET LONG AND SET AT AN ANGLE OF 52 DEGREES. C. G. GRANT WAS THE RIDER.

NATIONAL CYCLE MFG. COMPANY, Bay City, Mich.

The Guarantee.

The name **FISK**

on your tire is a guarantee that it is the best.

HIGHEST GRADE ONLY.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

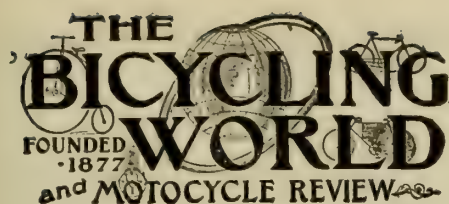
SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.



In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00

Single Copies [Postage Paid] . . . 10 Cents

Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, JULY 17, 1902.

Value of Variable Gears.

In the trade there still remain those who are not content to stand still and who recognize the commercial value of novelty and newness.

This class is just now concerned with the matter of new models for next season—models that will incorporate some feature or features that will render them distinctive and apart from the general run of bicycles.

To this class we believe our several suggestions of a distinctive coaster-brake model will appeal. It is this class also that should give heed to the two speed or variable gear. In conjunction with a cushion frame and coaster-brake we believe a bicycle so equipped would be well nigh ideal and would appeal to many purchasers able and willing to pay the price, while a changeable gear of itself will appeal to as many more who do not incline to the other two devices, but who would welcome an aid to hill work.

It may be argued that variable gears are not new, that they were on the market years ago and failed to create more than a

ripple. We can recall no such gear, however, that was either properly financed or aggressively pushed. They came before their time, and at a time when cycle makers were overfull of prosperity and had few moments and less inclination to deal with anything of the sort. They even cast aside the coaster-brake, and had its sponsors been less persevering, and had less money, it, too, would in all probability have gone the way of the changeable gears. Manufacturers now have more time for reflection, and it is not improbable that they may now find worthy of attention and adoption some of the very gears they once waved aside.

What we have said is meant to apply chiefly to motorless bicycles, but, if anything, the variable gear is of even greater moment to the motor bicycle. In the case of the latter it means a substantial reduction of the bulk and weight that are now excessive, and a corresponding increase in power and efficiency. We have dealt with the subject before, and are dealing with it elsewhere at some length, and do not believe we overestimate its importance. What is wanted is not bigger motors or heavier ones, but more powerful motors, and the efforts that are making to that end should profitably be expended in the application of variable gears, not in the increasement of weights and dimensions.

It is our belief that the first motor bicycles to be equipped with such a gear will score so heavily over the other kind that makers of the latter will, as a matter of self-preservation, be forced to adopt it also.

Is it an "Extraordinary Propensity?"

The average American manufacturer is so wide awake to the value of advertising that it sounds queerly to have an importing house describe as an "extraordinary propensity" the American failure to "ship goods without a sheet of advertising matter."

Strange though it appear, this complaint reaches us from a South African firm of no little importance.

"We frequently receive shipments of new lines of bicycles and accessories without a scrap of printed matter," they write. "Considering that our business is mainly done up country, we find it difficult to sell lines which we cannot back up with a supply of catalogues, booklets and circulars.

"Of course, some manufacturers err on the other side, and load us up with trade lists with net prices, which our clients in the cycle trade naturally decline to distribute.

Perhaps this reminder may lead some to see the error of their ways."

With the necessity and advantages so manifest there is small excuse for shortcomings of the sort. Mere publication of this South African complaint should lead all who are exporting cycles or cycle wares to discover if they are in fault, and if so, and for their own welfare, to apply a prompt remedy.

Displacement of the Disk.

There was at one time a disposition to carry the "refining" process in cycle construction to excess. It was thought in many quarters that a halt could not be called; that the trade must go on improving machines quite regardless of expense or of the ability of the average rider to properly care for and look after complicated devices.

As it turned out, this tendency came to a rather abrupt end. Simplicity and inexpensiveness became the watchwords of makers almost without exception. Anything new which did not embody these two prime requisites was frowned upon and relegated to the rear.

Among the features of this kind were disk adjusting bearings, which at one time bade fair to become the standard method of construction. But so completely were they shelved that the average rider of to-day scarcely remembers that there once was such a thing. They possessed many and great advantages. But they were exceedingly complicated, at least to the rider who had always been accustomed to the cone adjustments, and very expensive. These two facts wrought their doom.

In England, however, the disk adjustment, which started earlier than here, ended by being almost universally adopted for the crank hanger, and in many cases for the hubs. But the rush to adopt them for the latter was checked, the operating causes being much the same as here, and it has never been resumed.

To-day the cone adjustment rules, except in crank hanger construction, in both countries.

And in view of the entirely satisfactory character of the average bearing, there is really no cause for regret, no real ground for saying that an undoubted improvement was rejected.

Buzzards and the Harm They do.

Every country has its proportion of shyster manufacturers and merchants—those human buzzards who place little or no value on reputation, and who are intent only on

riches, they care not where or how obtained. Superior manufacturing facilities have probably given America more than its share of such shysters, and in their strife for present gain they have time and again soiled the good name of American productions generally and that of the American bicycle in particular.

In noting the recent departure of one such buzzard for a commercial tour of the world we remarked that the American cycle trade was due for another blow below the belt. This remark has brought to us from a prominent manufacturer a copy of a letter received from one of his foreign patrons. It well shows the depth and wide extent of the damage done by such buzzards as those of whom we speak, and whom few in the trade will have difficulty in recognizing. It follows:

"We beg to say that we are not prepared to take up the sale of any American cycles whatever, no matter how good they may be, for the reason that they are practically unsalable here now.

"Some time ago, when we were inquiring for American cycles, there was a growing demand for them, but the market was soon flooded with cheap, worthless trash, and the fact that a machine is made in America is now almost sufficient to condemn it.

"It will take a long while and a lot of expense in advertising to create a demand for American cycles here, and to efface the stigma caused by your country's rubbish being dumped upon us."

How to combat these commercial buzzards is a well nigh hopeless problem. Primarily the injury sustained is due to those foreign merchants who buy of them—who, momentarily blinded by mere price, lose sight of reputation and purchase without investigation or question. In the second place, the fault lies with the very manufacturers whose interests are damaged most. They are too complaisant, and suffer the shysters to cut into their trade without making an effort to expose or unmask them, an excess or exaggerated conception of dignity usually preventing resort to the stern methods that such cases require and such men fear.

Equip With Two Steps.

Just as pennies make the dollar, details make up the comforts of man, and oftentimes it is a small detail that has the most effect, especially with converts.

One detail that most motor bicycle makers have overlooked, and that some continue to ignore in spite of warning and protest, is

the equipping of the machine with two steps.

When a man becomes a convert to motor bicycles and purchases his first mount he has got a few things to learn for his own pleasure and for the comfort of the maker. If the maker is oblivious to the first his commercial instincts should keep him wide awake to the last, that he may do those things which will gain him friends.

There is no debating the statement that the best way to find out how to operate and govern and to take advantage of small kinks in management is to put the rear wheel in a stand, mount the saddle and play with the different parts which affect the running.

As many machines are being sent out by their makers, some with only one step, and in one notable case without even the one, it is rather a ticklish affair to mount the machine, let alone running it, with the weak supports in the stand that the stubby axle ends and their nuts give.

The wise makers of things are those who look out for just such a small detail as two steps. Two steps mean much toward learning to operate, and sometimes toward the comfort of the rider when out on the road and it seems necessary to run the motor free for a time in looking for "troubles."

What Brown did Say.

Mr. Albert Brown, managing director of Brown Bros. (Ltd.), London, writes the *Bicycling World* to "absolutely contradict" the uncontradicted interview which appeared in a London paper and which made him say that, duty removed, the English makers of fittings could "swamp the American market."

"What I did say, and what I reiterate," writes Mr. Brown, "was that if the duty was left off all cycle goods coming into America the English manufacturers would again be able to ship quite a quantity of fittings into the United States."

In quoting from the London interview, we gave it as our opinion that Mr. Brown was joking with the reporter. We certainly considered him too shrewd and well informed to seriously credit his alleged swamping assertion. On the principle that nothing is impossible, we can now agree with him that duty removed there again would arise a demand for English goods, but at the same time and without intending disparagement, we can think of nothing more improbable.

About the only chance English makers would have would be with those fittings which our own manufacturers refuse or deign to supply, as, for instance, two-speed

gears at the present moment. With those fittings an aggressive man should be able to do business, not in a large way, but in small but profitable lots.

It is not putting it too strongly to say that their attitude toward the motor bicycle is making the railway and steamship lines ridiculous. Devoid of gasoline, the motor bicycle is as safe as the motorless bicycle, and as the latter is accepted and transported as baggage without question, to treat the former as if it were an infernal machine is little short of assinty. Such treatment only begets subterfuges for the evasion of the narrow regulations, and how easily this is done is instanced by the motocyclist who, when his bicycle was refused admission to the baggage car, simply removed the motor and the empty tanks, wrapped them with paper and carried them into the passenger coach, where none could say him nay and none could inspect his parcels. The French railroads have been obliged to bow to common sense, and when they awaken to the ease with which their rules may not only be set at naught, but made appear supremely silly, the American companies must do likewise.

The cyclists on the other side of the herding pond continue to fight, on paper, over the question of high gears and long cranks. And with the makeup of the nation, they will probably keep at it until the crack of doom.

The trouble with all of the disputants seems to be they don't realize that the precise analogy of proportionate cranking to high gearing appears to be indefinable mechanically. Applied physically it is, by comparison, more than indefinable. This is not surprising when the personal element is introduced, because the latter is notoriously an elastic, and to that extent a debatable one—possibly hopelessly so.

The jubilee parade in this city on Saturday last was literally a brave show, and even if the full possibilities of the occasion were not realized the men responsible for it are deserving all praise. Deluded and led on by the false promises of an overzealous individual, they awakened to the true situation only at the eleventh hour. Then met by an apathetic trade that they did so well and saved the cycling interests from derision they can ill afford was due to unselfish and herculean effort which we fear the cycling interests will not appreciate as it deserves to be appreciated.

THEY ARE HARD TO BEAT!

1000 PER CENT.

Boston to New York.

250 MILES ON TIME.

Two Orients Started.

Two Orients Finished.

WALTHAM MFG. CO., Waltham, Mass.

New York City, July 5th, 1902.

Dear Sirs:—Have not found out as yet who won. We arrived O. K.; no trouble. I was in New York FIRST, but did not dare to show up until I was due—5:20. Had to sit on the curbing and see three others go in. I had the fastest machine and BEST of the bunch. Took every hill from Boston to New York without any of my help.

Will be back some time Tuesday.

Yours truly,

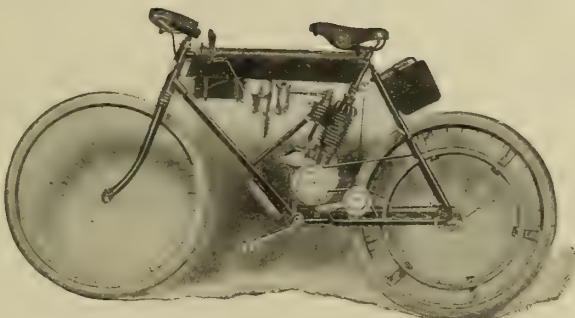
L. H. ROBERTS.

WALTHAM MFG. COMPANY, = = Waltham, Mass.

IMMEDIATE DELIVERY!

We can make Immediate
Delivery of

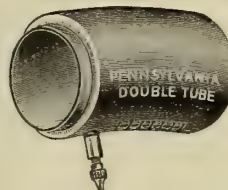
MARSH MOTOR CYCLES



We have the largest factory in the United States devoted exclusively to the manufacture of motor cycles, and have a proposition for agents that is to say the least, interesting. If you are out to make money, write us at once and we will let you know how.

MOTOR CYCLE MFG. CO., BROCKTON, MASS.

Jobbers, Be Wise!

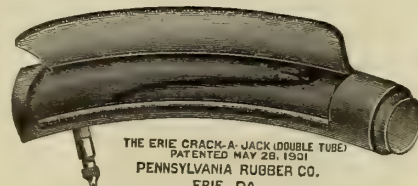


Handle these
Goods and

MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



Don't close
until you
consider
our entire
line.

PENNSYLVANIA Rubber Company,

ERIE, PA.

BRANCHES:

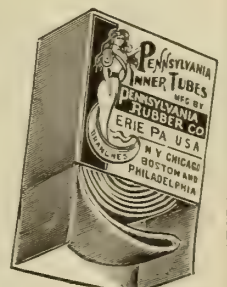
NEW YORK

BUFFALO

CHICAGO

PHILADELPHIA

BOSTON



VALUE OF THE FORGE

Why it Deserves a Place in Every Repair Shop—Its Many Uses.

In nearly every line of repair work handled in the shop there is frequent occasion for light hand forging. Almost every repairer who has contributed this work to the neighboring blacksmith knows that Sir Blacksmith is seldom accurate, much less delicate, in his work, says a contemporary. Consequently, the repairer is forced to spend much time filing up the finished forging or in some other way reducing it to the required size, form and proportions. Taken altogether, it is seldom profitable work, for, between the time spent and the money paid the blacksmith, the profit is entirely appropriated to the item of cost.

It is probable that most repairers can learn to hammer out small forgings much more quickly than they can teach the average blacksmith of the carriage repairing and horseshoeing variety the necessity for accurate work. The cost of a small hand forge is light. The money which it will earn is large in comparison.

The number of lines of work which the shop is called upon to execute and which frequently require the manufacture of new parts for replacement or alteration is daily increasing, on account of the constant introduction of new patterns in each line, and of entirely new lines. For instance, the introduction of the automobile and the motor bicycle necessitates a line of repair work in which the making of parts is often required.

The owner wishes an improvement, or he wants a broken or injured part replaced in less time than is required to obtain it from the factory. Most of these parts necessitates either machine or forge work, or a combination of both in their manufacture. Many of the parts to be replaced are castings, but the repairer must use forgings in making new ones. The lighter work also, such as sewing machine, bicycle and typewriter repairing, frequently calls for the manufacture of some small part which cannot be readily secured.

Not only is the forge of immense value in making repair parts, but it furnishes the repairer with the ready means for making many of the lathe and bench tools needed in the regular lines of work. It also equips him for the hardening, tempering, annealing and casehardening of small pieces and tools, and gives him the best means for heating material which is to be bent. With the brazier, which many repairers use for heating tubing and rods for bending, the heat cannot be controlled so that it can be applied to a limited surface area as well as it can be in the forge. In the latter the fire can be banked so that the exact spot where the heat is needed can be brought to the correct temperature without greatly affecting any other portion of the piece.

The forge will soon become a necessity in

the repair shop, and it will become so because the farsighted repairers are installing it and forcing the others into line. It is a good commercial policy to be among the forcing rather than the forced contingency.

Wheels for a Dollar.

"Old wheels a dollar apiece; here they are, plenty of them. Take your choice." It was a dealer grown gray in the service who spoke, and as he did so he pointed to a long row of wheels hanging from the ceiling.

"It is the coaster-brake that has done it," he said in reply to the *Bicycling World* man's look of inquiry. "Every time we put on one, or nearly every time, we have an old wheel to dispose of or stow away. We hang them up there and work them off in the course of time. Oh, it is not such slow work, either," noticing the rather doubting look. "That is all we have left, and the number is dwindling rather than increasing.

"You see, it is really cheaper to set up a new rear wheel, even counting the rim and the spokes and nipples, than to take them down and set up the old one. Then it comes to the question whether the owner wants the latter. Usually he does not; he cannot see what use it is to him, and he does not want to lumber up his house with it. So he nearly always leaves it with us. If he is not willing to do this we let him take it along.

"After a while along comes a rider with a broken rim or a wheel that has a lot of broken spokes in it. Maybe it has been giving him trouble all along. At any rate, he is frequently quite willing to give a dollar for an extra wheel, and if the tread and chain are anything like that of his own machine we have no trouble in making the deal."

Concerning Forged Checks.

In the case involving the liability of a bank on forged checks a decision of the Court of Appeals amounts to a declaration that every man must protect himself so far as he has the opportunity to.

The depositor was not allowed to throw upon the bank the loss which it would have been possible for the depositor to have averted had he had less confidence in his own clerk. The cancelled checks were returned bimonthly or oftener, and the depositor might have discovered that he was being robbed by the simple process of comparing the checks with the stubs.

As the names on the checks had been changed, as well as the amounts, the first glance at them would probably have disclosed the fraud, and because detection would have been so easy the court refused to allow the loss to be thrown upon the bank. It is a sound general proposition that a man has got to protect himself whenever the means of doing so are within his reach, even though some one else might also have protected him.—(*Journal of Commerce*).

The monkey wrench gets its name from its inventor, Thomas Monkey, of Bordentown, N. J.

WHERE RED TAPE RULES

Railway Restrictions on Motorcycles and how They are Made Ridiculous.

The transportation of motor bicycles on both steamship and railway lines has become a source of intense aggravation. Some of the transportation companies refuse to carry them at any price, others subject the motorists to all forms of harassment and red tape. They seem to consider the motor bicycle, even when devoid of gasoline, as a species of infernal machine, and treat its owner accordingly.

The experience of George P. Jenkins, one of the participants in the recent Boston-New York endurance run, affords a typical instance of the vexation to which riders are subject. Jenkins's machine unfortunately went wrong 20 miles from the start and he was compelled to seek a railway train. At first the baggageman imperiously waved him aside. Jenkins was insistent, however, and brought to bear that the gasoline tank was empty and therefore harmless. The baggageman was doubtful and required that the tank itself be removed. This done, more doubt filled his mind, and he insisted that the lubricating reservoir and later the motor be detached. Jenkins complied with all these demands.

"Now that is no longer a motor bicycle there can be no risk or question about your accepting it," he vouchsafed.

But the baggageman was still timid and uncertain. Finally he visited the station-master for advice. The two carefully surveyed the now practically dismantled machine. They scratched their heads, stroked their chins and eventually concluded that the battery box must be removed. Jenkins demurred and argued the point and to such good purpose that the bicycle was finally accepted, checked and stowed in the baggage car.

This arranged, Jenkins calmly wrapped his motor and empty tanks with paper and carried them without question or protest into the passenger coach.

King's Gift to His Grandson.

Before he was stricken King Edward remembered his grandson's birthday in the same fashion as last year, when he created quite some comment by presenting the young prince with a bicycle.

This year's gift was again a Rudge-Whitworth Special, but with a larger frame, necessitated by the growth of the boy—no less than 3½ inches in the twelvemonth. The following are the specifications of the machine, the prince being eight years of age: 18-inch frame, 4¾-inch cranks, 48 gear, Clincher tires, Brooks juvenile saddle, fixed gear, front wheel rim brake only, nickel-plated rims and spokes, and silver tipped handles. The machine bears a silver plate with the inscription, "Prince Edward of Wales, from the King; June 23, 1902," the wording of which was decided upon by his majesty personally.

THE CASE OF THE VARIABLE GEAR

Why it Merits the Serious Consideration of the Trade—Of Value to all Bicycles its Application to the Motor Bicycle is of Vital and Far-Reaching Importance—Solves Questions of Weight and Power.

Not only did the Boston to New York motor bicycle endurance run teach many lessons applying to details, but there was one item of basic principle which stands out with more and more prominence as thought is given to the matter. And that is the one variable gear which was used, and which was briefly alluded to last week.

The *Bicycling World* has heretofore pointed out the advantages of the variable gear not only for the motorless but for motor bicycles and while the performances of Mr. Hafelfinger's small powered machine, notably in hill work, has been known to those intimate with its working, this public demonstration has impressed itself on a wide circle of those who are keeping closest in touch with things motor bicycular.

Study of the subject has many ramifications, but most important of all is that relating to the size of the motor and its consequent effects on the weight of the future motor bicycle. No one of extended experience in the selling of motor bicycles will dispute that to insure widespread sales and use the bicycle of this type must comply with certain weight limitations that they may be handled with facility between rides. It is primarily this factor which must be taken into consideration by those most interested in future sales.

That this view of the situation is not singular is evidenced by the many concurrent ideas which come from experienced sources. Since the subject was first broached in these columns it has received marked attention abroad, where the motor bicycle is most prominent, and those most experienced are a unit in their declaration that "the solution of the motor bicycle problem lies in the adoption of a light motor and a variable gear." That there shall be no misconception it should be understood that the view is not taken that there is no room or future for motors of large power. Machines thus equipped will have their advocates and users governed by local or special reasons. The standpoint taken is one which has in mind average conditions.

After all, the motor bicycle is no different from any power mechanism that comes in for use under varying conditions. A little

thought will call to mind that, almost without exception, these comparative examples are designed to give various speeds for the varying work they are called upon to do. To quote a well recognized truism, power is at the expense of speed, and speed is at the expense of power. With a given energy there cannot be both.

The motor bicycle is in principle, if not in fact, a small motor vehicle; in fact, it is that machine in its simplest expression. No one would think of building a motor vehicle without low gearing for hill or other hard work, as he knows that if the high speed gears are kept in the grade will eventually "kill" the motor. The conditions being positive, no one with thought can argue against the value of a low gear for occasions, nor against its ultimate adoption, because of the common sense reason that it is good mechanics, applied and otherwise.

The entire matter is one of refinement in construction, as heretofore pointed out in the *Bicycling World*. In addition to the attention already given the subject, it is going to receive more, not only because of the performance of the small one horse motor which every collateral evidence shows drove a machine over all the severe hills between Boston and New York, hills which motors of more power balked on at their one high speed rate, but because its advantages are so obvious and without refutation if the subject is brought before any recognized engineer.

At what point between the motor piston and the tire of the road wheel the change gear will be applied is something yet to be determined upon. Its principle is conceded in every moving mechanism, its position has no such predetermining factor.

In England the point of application which will have immediate vogue will be at the hub, because hubs with variable gears are now on that market and have the backing of the makers, who have tried them on motor bicycles. In one case, and there are undoubtedly others, the troubles with earlier change gears which made it necessary to slow down when changing from one gear to the other, have been entirely obviated, and the changes can be made without danger to

the parts, either at the idle, the slow or the high speed.

Just what effect these foreign conditions will have on the manufacturers of this country depends on whether or not our manufacturers care to import articles already at hand—but to which the duties and other charges will add a burden of cost too great to make them commercially valuable—or to work out other construction giving the same general results. This latter would mean practically starting from the foundation, and as this must be the case—unless foreign goods are used—it would seem that lines of originality could be striven for and the change speed located at whichever point might most appeals to each maker.

Against changing the speed at the hub it can be urged that forward of this point the changing of the speed would carry with it the advantage that the intermediate driving means would also be favored when running at the slow speed. This alone is a point in construction which would have weight with some engineers. In this forward position there would be a choice of two places if a counter drive was used, either of the Royal or Indian type. If the drive was direct from the motor to the hub, then there would, of course, be the one place to put the change—on the motor shaft end.

In either of these position, at the motor shaft or at an intermediate shaft, there is the point to consider that the pressure might be much greater than at the hub. As a matter of fact, experiments with two-speed devices on motorless bicycles, placed in the hanger because that point gave more room and scope, show that much of the measure of failure of that type came from this pressure. Figuring the normal pressure at the pedal pin as 200 pounds, it can be seen that with a $6\frac{1}{2}$ or 7 inch crank the pressure becomes enormous at the bottom bracket.

On the pedal driven machine, however, the gearing is up and the pressure is applied at the rim of a wheel, taking the crank length as the radius, approximately forty inches in diameter, and from there carried to the centre, thus multiplying to enormous proportions. On the other hand, with the motor the pressure is applied at the center and

carried to either a gear, sprocket or pulley of from two to four inches in diameter, and from here back to the road wheel the gearing is down.

If the speed of the motor and the pressure at the periphery of its shaft gear, sprocket or pulley, a pressure which has not yet been fully determined, is too great for long life to a speed changing mechanism if placed at this point, then it would seem that at the intermediate drive, which is naturally at the pedal crank hanger, advantage could be taken of the scope and room offered at this point to place the mechanism within it, thereby reducing the mechanism at the hub to a coaster brake.

In connection with this entire matter is that of cutting out the motor when starting the bicycle with the pedals, and for temporary slowing down in traffic or for other reasons. It should be a part of the same general improvement that this feature be added. Again considerations of proper and best location come up. With the change speed at the crank shaft this could be arranged in the pedal hanger if an intermediate drive was used. With the direct drive it would obviously be placed at the hub.

With an intermediate drive and the change speed at that drive point complications and bulk would be saved in placing the cut-out mechanism at the hub. By this it is to be understood that with the pedalling mechanism for starting and the change speed for gearing both positioned in the pedal bracket, there would be quite enough parts at that point. To avoid complications in assembling and in taking care of or making possible repairs it would perhaps be better to place the friction clutch, for free or fixed drive, at the hub. Another advantage that would come from having it at this point would be that it could be made larger, so that wear would be minimized and there could always be a little slip, to compensate for any jerkiness from the motor due to carelessness on the part of the rider in throwing the motor in with the spark set at the high point. This would also meet the objections of those who are opposed to fixed drive and advocate the belt as the present remedy.

With it all there is one point to remember from lessons taught by the motorless bicycle. That form gave pleasure to millions of persons, but the knowledge of those pleasures could only be had from possession. There had first to be the incentive or desire to own. Many of these millions would like to have been the proprietor of a horse and carriage. If the purchase was not beyond their means the stabling and upkeep were. Not so with the bicycle; it was not merely easier to acquire, but its small bulk and weight solved the entire problem of housing.

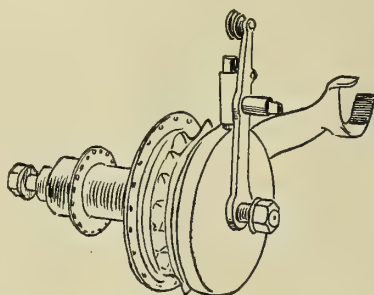
History has a trick of repeating itself. The motor vehicle is now the thing. An ownership desire is universal, but its price and the means of housing it between rides is beyond the possibilities of these same millions. The motor bicycle is the multitudes' motor vehicle, and to meet the conditions of between rides it must be made light enough to handle.

To meet these obvious conditions there can be found many of experience and deep study who believe that the solution of the motor bicycle problem lies in the adoption of a light motor and a two-speed or variable gear.

FITS ANY HUB

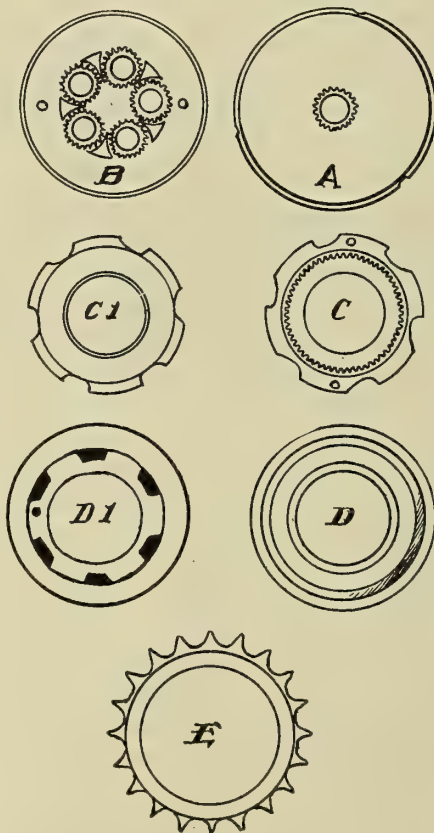
Here's a Two-Speed Gear That is Applied More Easily Than a Coaster-Brake.

As has frequently been pointed out in the *Bicycling World*, the variable speed gear for bicycles is assuming a prominent position in England and promises to become a most notable adjunct in next year's optional fittings. One of these devices which has re-



ceived considerable praise at the hands of competent critics is the Garrard two speed hub, illustrated herewith.

This fitting, which is the invention of C.



G. Garrard, is simply a Crypto gear made small enough to screw on to any hub having the Cycle Engineers' standard thread. The makers have declined to make any other sizes, in order to simplify construction and deliveries. The gear increases the weight of the hub by seventeen ounces—that is, if an ordinary standard hub is used with the free wheel removed.

An examination of the illustration of the complete hub will show that the rimmed disk at the outer right end is the part

marked A, which is shown from the reverse side. This disk has a fixed sun gear at its centre and three notches in its rim. The gear meshes with the five planet gears shown on B, and these in turn engage with the internal toothed ring C, which is placed in D and has clutch notches cut in its outer periphery. C¹ and D¹ are reverse views of C and D, respectively. D¹ also shows the duplicated free wheel clutch acting with the sprocket E.

The ratio of the two gears is as follows on the hub shown: There are sixty teeth outside and twenty inside. Twenty being the third of sixty, the result is that one-third is added for the high gear. Therefore the low gear is 25 per cent down from the high, and the high gear is raised 33 1/3 per cent from the low. By dropping a pawl into a notch the central pinion is arrested, giving the high gear; by withdrawing the pawl the low gear comes into play. The two free wheels automatically catch up, and the whole is locked together without shock.

Another point sought after by the inventor was that there should be no confusion for the rider. The rider can change over under any conditions of riding, either when free-wheeling or when pedalling lightly or hard up hill. The lever can be snatched backward or forward without any perceptible shock, though sometimes it is noticeable when pedalling hard. That is to say, the static pressure against the pawl resists the effort to pull it out of the notch, but when one of the feet gets to the dead centre, out it comes.

A Paying Electrical Job.

If the repairer is sufficiently versed in electrical wiring, etc., to install doorbell systems, and is so situated that he does this work for his vicinity or can handle it, he may add to it with profit the selling and installation of electric lighters for gas burners—assuming that he is in a district where gas is used for illuminating.

Electric gas lighters are simply little sparkers which are combined with a gasburner. They screw on to the gas fixture just as does the base of the ordinary burner, and are connected with the battery by light, silk insulated wires wound around the gas fixtures like the stripes on a barber's pole. The lighters can be purchased complete, and as the current necessary for them can be furnished by any ordinary cells, such as used for doorbell circuits, they can be installed in connection with that circuit.

The wiring can be visible or invisible along the ceilings and the walls, just as the person for whom the job is accomplished wishes. It of course requires more work and hence expense to run them invisibly between walls and ceilings.

These lighters are a novelty and really very convenient, as with them it is only necessary to pull a short depending wire to turn on the gas and ignite it. The repairer should therefore find no difficulty in introducing them. If he burns gas in his store or shop he can first install them there, and thus have constantly the means of demonstrating their convenience and efficiency.

BABBITTING BEARINGS

When Boxes Need Replacing How They may be Dispensed With.

It often happens in the shops that a bearing requires lining up or refitting. In such cases a great deal of time may be spent if a bearing has to have new brasses fitted or have the old brasses refitted and scraped. A very good way to get over this trouble is to fit them up with babbitt metal, which can be run into the bearings very easily, doing away with fitting and troublesome scraping.

Suppose, for instance, that the spindle of a polishing lathe is chattering badly and heating up when tightened. The following described method of babbitting such a bearing will make it run as smoothly and freely as before, says a writer on workshop practice.

First of all, take off the tops of the bearings and remove the spindle. The spindle should be placed on its centres, between the lathe centres, to see that it runs perfectly true. If not, a light water cut should be taken along the journals, and the pulleys and ends trued up in the same way if they are at all out. The spindle is now replaced in the journals, and packing pieces of wood with V tops are adjusted under it, so that they will hold it in the proper position when the bottom brasses of the bearings are removed.

The spindle is now removed and the bottom brasses taken away, the packing pieces being left where they were. One-quarter-inch holes, about one-eighth inch deep, are now drilled at different positions inside the bearing blocks and the caps. These holes locate the babbitt in the bearings, and prevent it turning around or sliding endways.

The spindle is now replaced in position and the top boxes put on, leaving a piece of thin packing between top cap and bottom bearing. This packing may be made of thin lath, just about the thickness of a hacksaw blade over the teeth. It is placed so as to come up flush with the inside of the boxes and with the ends. The top boxes are now bolted down.

The ends of the boxes are packed up with good hard clay, and an air gate is left at one side and an ingate at the other. The lubricating hole in the top of the bearing should also be left open for the escape of the gases. This clay packing at the ends may be kept in place by binding steel wire around it and around the spindle and boxes.

The babbitt metal is now heated in a metal pot over a good hot forge until it is red hot. It is no good pouring this metal cold. Charcoal dust should be sprinkled over it, so as to prevent the formation of slag on the surface.

While the metal is getting hot, the bearings should be heated up with a blowpipe. Both boxes and the spindle should be well

heated, as the metal cools rapidly, especially in a cold metal mould such as we have here. The moulds should be heated to such a heat as will not bake the clay too much, but which will insure the metal getting to all parts of the mould before cooling.

The metal should be poured rapidly and deliberately, not letting there be any cessation of the stream of metal running into the bearing. Both these bearings may be poured at the same time, but in this case great care should be taken that there is ample air outlet at the top of the top cap. The clay should be banked up so as to give a good riser or head of flow to the metal.

After the bearings have cooled down the clay is removed and the bolts taken out of the caps. The wood packing between the top cap and the bearing is removed out sideways. This leaves the bearing solid, and the top cap cannot be taken off because the babbitt metal completely surrounds the spindle. Through the slot in each side of the bearing caused by the distance, from the bottom bearing, of the top cap, is inserted a hacksaw, and the metal is sawed through the spindle, which may now be removed with the top caps.

All that now remains to be done is to trim up the ends and edges and replace the packing. At the same time the lubrication hole should be drilled through and oil grooves cut inside the top and bottom bearings with a graver.

If this is carried out properly the result will be a thoroughly successful bearing, capable of long and hard wear. These bearings are particularly suited to high speed spindles. I once constructed a spindle rounding machine for converting square wood battens into round rods. This had to run at about 3,000 revolutions per minute, and was carried out precisely as I have described it. It gave ample satisfaction, and ran well without vibration.

This method of repairing may be adopted in many cases, such as small engine bearings, shaft bearings and a variety of other bearings found about any cycle shop.

The Element of Luck.

The item of luck in life was recently illustrated in the tire experience of an old timer. In 1900 and 1901 and up to a month ago he had but one puncture for the entire period, and no other troubles. Since that time four punctures and a faulty valve have been the sum of troubles.

One Idea of Fitness.

Eternal fitness with some people seems to be an unknown quantity. As an example: A cycling friend was recently met, who had had his machine remodelled and replated. He then put on an old and tarnished bell.

The Retail Record.

Waterville, Me.—H. N. Beach & Co., fire; loss \$3,000, fully insured.
Barton Landing, Vt.—Walter McNamara succeeds Ernest Wheeler.

DISCARDING DISKS

Why That Form of Hub Despite Advantages has Fallen From Favor.

Among the small and seemingly unimportant points in cycle mechanism and design which have of late attracted very little attention is that of the relative efficiencies of cone adjusting and disk adjusting hubs, says the Cycle Trader.

When what we believe was practically the first disk adjusting bearing—always excepting, of course, the Bown bearing for ordinaries—was applied to the modern cycle by the introduction of the Humber disk adjusting bracket, many were the arguments, pro and con, adduced on the part of upholders of one or the other system. The rapid adoption of the disk adjusting bracket by nearly all makers of repute made this practically a standard pattern for English built cycles, a practice which has not been followed to any great extent by our French, German or American competitors.

Probably a reason for the rapid adoption of the disk adjusting principle by English cycle manufacturers and fittings makers was the craze which, just at the time of the Humber introduction, created a demand for narrow treads in brackets. It was found by designers that the disk adjusting bracket allowed of a narrower tread with a fairly wide bearing, a combination which, owing to difficulties of cone adjustment, they had not been able to achieve with the ordinary cup and cone bracket.

Then arose the question, "If the disk adjustment is good for the bracket, why should it not be good for the hubs?" and many makers rushed into the field with disk adjusting hubs of various designs. Probably every fittings maker of repute put on the market sets of fittings including disk adjusting hubs. Nearly every cycle manufacturer of note also fitted disk adjusting hubs to his machines. It is very significant to note that at the present moment, while disk adjusting brackets are almost universal on English machines, disk adjusting hubs are conspicuously in the minority.

The reason is not far to seek. We believe that the public generally never understood properly the manipulation of this class of hub, and therefore had trouble with its adjustment. Again, it was much more expensive to make, a great point with the manufacturers. It is open to very grave doubt whether the disk adjustment, either to bracket or hub, is any improvement on, or even equal to, the cone adjustment. Experiments have been made which would go to prove that the disk adjustment was at a disadvantage as compared with the cone adjustment, a result with which we are inclined, to a certain extent, to agree.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

Tips on Steel Tempering.

If a smooth cylindrical piece of steel is allowed to rest undisturbed while it is being heated for hardening it will, after being cooled in the water or oil, have a soft streak along the portion that was uppermost while being heated. Consequently, such pieces should always be turned around in the fire frequently.

Oil as a quenching or cooling medium for the heated pieces does not act as rapidly as water, but it is more desirable where a medium hardness and a greater toughness are desired. The steel is not as brittle as when quenched in water. Some steel workers claim that brine will effect a greater hardening than fresh water.

In every case of hardening the piece should be quenched while it is on a rising temperature. If it is hardened while on a falling temperature the grains will be coarser and the piece more brittle. If the piece should accidentally reach too great a temperature it should be thoroughly cooled and then reheated to the correct temperature for plunging, instead of being allowed to cool off to the desired temperature and then quenched.

When drawing the temper of taps, reamers, cutters and similar pieces, it is not necessary to leave them so that a file will not touch them. The file contains more carbon than the reamer or tap, and hence if drawn to the same color would be harder. It is said that if the taps or reamers were drawn to a point at which the file would not touch them the teeth would be liable to break off when given heavy work. It is recommended that they be drawn down until the file will just bite them tightly.

Remember, hardening is not tempering. Hardening and tempering is the drawing of hardened steel by heating until it assumes a color which indicates a certain temper. The drawing or tempering of hardened steel is work which requires experience to insure uniformly good results. The skill lies mainly in being able to properly determine the gradually changing shades or colors as the piece is heated after hardening, and in knowing to what colors to draw it for different purposes.

The colors range from light straw when the piece is first heated to black, when the temper is entirely gone. The temper denoted by the light straw and straw is suitable for lathe tools and files; light brown and brown for taps, reamers, drills and milling cutters; brown shaded with purple for axes, hatchets and tools requiring a like temper; light blue for springs. The dark blue temper which precedes the black, or no temper, is seldom used.

The First Thing to do

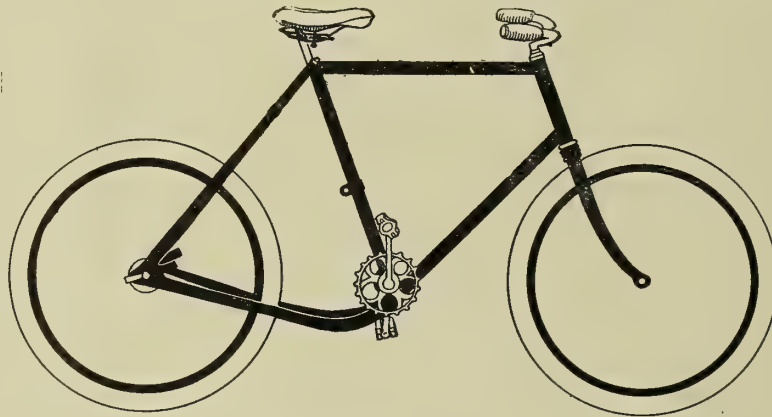
When a buyer of a motor bicycle gets his machine the first thing he should look to is his spark plug. It will frequently be found that it is coated with lubricating oil. The cause of this is in the shipping. When the machines are sent out they are supplied with lubricating oil in the crank case. When the

transportation companies handle the crate they tip it in all directions, with the result that some of the oil works by the piston and floods the plug. A good baking out or soaking in gasoline will usually remedy the trouble, and if attended to before anything else is done lots of after worry and guessing will be saved.

Motocycle Frames Their Specialty.

While the Regas Vehicle Co., Rochester, N. Y., originally designed to manufacture complete motor bicycles, that idea has been abandoned; instead they are now offering motor bicycle frames and wheels, with or without the Regas spring, to all comers.

Their frame, which is amply protected by



patents, is shown by the accompanying illustration. Its specifications follow:

Frame—22 inches; Shelby tubing, 1½ inches x 20 gauge; rear stays ¾ inch x 16 gauge; rear forks solid steel 1½ x ¾ inch, tapered to ¾ x ¾ inch; inside measurement between rear forks, 3½ inches; triplet front forks and truss crown.

Wheels—26 inches diameter; one piece special wood rims, extra strong for 1¾ inch tires; special Weston hubs, rear hub threaded at both ends; 2¾ inch chain line; very heavy spokes, extra heavy in rear wheel.

Wheel base—48 inches; distance from seat post tube to rear tire, 8½ inches, giving plenty of room for engine; tread 6 inches, with straight cranks; offset cranks furnished for wide engines.

For their frame the Regas people claim that it permits of the motor being carried low and where it is easily accessible and removable; that the long wheel base insures steady steering, and with 26 inch wheels does not look longer than the regular bicycle. These small wheels are claimed to be not only lighter, but stronger, and make it possible to build a "low frame" with a "long head" and render it unnecessary to "gear down" so much when a high speed engine is employed.

Revivalists in Omaha.

Omaha, Neb., has organized a new bicycle club, which includes not a few old timers whose cycling interest has been renewed. Runs are held every other evening and on Sundays, and a coasting contest is on tapis.

Against High Powered Motors.

There is disappointment in store for the motor bicyclists who imagine that a high powered engine is the acme of perfection, says the Irish Cyclist. It has its drawbacks, and they are of a serious nature.

In the first place, there is the difficulty of starting, due in a large measure to the increased weight. This is a serious trouble for men who use their bicycles habitually for town work and for pottering about. Some of these machines are so difficult to start that on a slight grade the exertion is heartbreaking, and even on the level if the machine does not go off at once one gets into a most distressing heat. Personally we are inclined to think that a 1½ horsepower en-

gine is quite sufficient for most purposes. Its pace on the level and downhill is as fast as one can safely travel on Irish roads, while uphill the difference between it and a high powered machine is not so great as one might imagine.

In the case of our Phoenix we adopted the expedient of fitting a two speed hub on the back wheel, so as to have a high gear for assisting the engine and keeping up a fast pace on the gradients. We find that by this means very steep hills can be surmounted easily with very slight exertion in the way of pedalling. The great point is to maintain the speed of the engine, and so insure its giving its utmost power; in fact, we derive positive pleasure from pedalling up the grades, even when it is not necessary, and very rarely open the throttle more than half.

With the ordinary low gear fitted to motor bicycles, pedalling at a high speed is irksome and calculated to overheat one, and that is where the advantage of the two speed gear comes in. One has the low gear for starting and for pedalling on very steep hills, and the high gear can be used on other occasions. Quite recently, when driving home, we found that our lamp would not stay lighted, and we pedalled with the engine the entire way, as we found by this means we had greater control and were better able to maintain a uniform pace of about twelve miles an hour, which was as fast as we consider safe in the darkness. The exertion was only sufficient to maintain a comfortable temperature.

LEAGUE MEET BEGINS

Locality Favors its Success—The Program for the Four Days.

The L. A. W. national meet is now in full swing at Atlantic City. It is yet too early to measure the fulness of the swing, but the natural attractiveness of the resort and its proximity to Philadelphia are expected to make, and under normal conditions should make the meet more of a success than any of its recent predecessors. George M. Schell, the chairman of the promoting committee, and a few of his fellows have put in some hard work to assure success, and it cannot well prove barren of effect.

As finally arranged, the programme for the four days is as follows:

WEDNESDAY, JULY 16.

- 5:30 a. m.—Run to Atlantic City. Leave Market Street Ferry, Philadelphia, in charge of A. H. Allen and J. H. George. (Arrive at headquarters, Grand Atlantic Hotel, Virginia avenue, at 11:30.)
 9 to 11 a. m.—Sailing from Inlet.
 12 noon—Opening of League meet at headquarters (Grand Atlantic Hotel). Registration and issuing of credentials.
 3 p. m.—Good Roads Convention at headquarters.
 8 p. m.—Evening session of Good Roads Convention. Address, illustrated with lantern slides.
 8:30 p. m.—Races at Coliseum cycle track. George Leander vs. W. S. Fenn, 20 miles, motor paced; one mile amateur; unlimited pursuit race between Johnny Lake, W. F. King, Jimmy Hunter and Charles McConnell.

THURSDAY, JULY 17.

- 5:30 a. m.—Run to Atlantic City. Leave Market Street Ferry, Philadelphia, in charge of Captain James McGrath. (Arrive at headquarters at 11:30.)
 9 to 11 a. m.—Sailing from Inlet.
 9:30 a. m.—Bicycle run to Longport. (Start at headquarters.)
 10:30 a. m.—Meeting of national officers of L. A. W. at headquarters.
 4 p. m.—Cycle parade on Pacific and Atlantic avenues.
 8:30 p. m.—Races at Coliseum cycle track. Albert Champion vs. H. De Guichard, 25 miles, motor paced; two mile amateur; five mile professional lap race between Leander, Fenn, Lake, Hunter, King and McConnell (prizes for leader at every lap and every mile).
 11 p. m.—L. A. W. midnight smoker at Inlet Pavilion.

FRIDAY, JULY 18.

- 5:30 a. m.—Run to Atlantic City. Leave Market Street Ferry, Philadelphia, in charge of Samuel Eaton. (Arrive at 11:30.)
 9:30 a. m.—Run to Somers Point; leave headquarters (Grand Atlantic Hotel) in charge of Arthur Wright.

3:30 p. m.—Special L. A. W. concerts at Young's Pier and Steel Pier.

7 p. m.—Pioneers' banquet (at headquarters).
 8:30 p. m.—Races at Coliseum cycle track. Three cornered 20 mile motor paced match race between Gus Lawson, W. F. King and Charles McConnell; five mile amateur; professional motor tandem race (open).

SATURDAY, JULY 19.

- 5:30 a. m.—Run to Atlantic City. Leave Market Street Ferry, Philadelphia, in charge of William Ennis. (Arrive at 11:30.)
 9 to 11 a. m.—Sailing at Inlet.
 10 a. m.—25 mile road race over Longport Speedway; also motor race.
 3:30 p. m.—Sousa's Band concert, Tilyou's Steeplechase Pier.
 8:30 p. m.—National Circuit races at Coliseum track; National Cycling Association championships, sprint races, scratch and handicap, between all the flyers following the N. C. A. circuit.
 10 p. m.—L. A. W. dance on Steel Pier.

Cheerfulness in Business.

Margaret Sangster, among other wise words, says:

"Better than a fortune—than gold and silver and jewels—better than anything that can be weighed in earthly balances—is a sunny hopefulness of habitual thought, which makes the common day and the rough road cheery and smooth; for 'a merry heart doeth good like a medicine.'"

"Merry: Enlivening, gay, exhilarating."

Margaret is right! The merry heart is a medicine, acting and reacting from mind to mind and from heart to heart.

We need such tonic among the too serious scenes of commercial life, says a contemporary. We need the bright glance and the spirited word, the enlivening tone and the encouraging demeanor of those who can give them forth to the nervous and overwrought man who treats all of life as a mere business proposition without the lift and sparkle that a mirth loving soul can impart to it.

What's a story without any fun in its pages? What is a play unrelieved by wit? What is a newspaper without the "funny column"? What is business when habitually treated as a bare, cold, case hardened thing that holds no spirit of pleasure or glimmer of imagery or smile of laughter or humor or mirth?

We all appreciate the genial, kindly nature of him who sheds sunshine and brightness as he passes along the dull pathways of commerce, and lifts the curtain that so often shuts out the human element of joy from the strenuous marts of trade.

Grand Circuit Inaugurated.

The grand circuit, on which the system of point scoring will decide the professional short distance championship, began at Revere, Mass., on July 12, and will conclude on or about September 15. The July dates follow: 12, Revere, Mass.; 16, New Haven, Conn.; 16, Providence, R. I.; 19, Atlantic City, N. J.; 21, Pittsburg, Pa.; 23, Washington, D. C.; 24, Baltimore, Md.; 26, Vailsburg, N. J.; 29, New Haven, Conn.

BANKRUPT SALE OF BICYCLES AND SUNDRIES. EXCEPTIONAL CHANCE

FOR THOSE WHO SPEAK QUICKLY TO

Get Good Goods Cheap.

On July 25th, at 10 A. M., by order of the Court, I will sell the assets of W. H. PECK, bankrupt, Elmira, and AM PREPARED TO RECEIVE IN ADVANCE PRIVATE TENDERS for all or any part of the stock.

THE STOCK INCLUDES

about 115 new chain, chainless, cushion frame and coaster brake bicycles—Clevelands, Iver Johnsons, Indians, Snells, LeRoys, Eldridges, Stormers, Hengerers and others; also, a quantity of Hartford and Goodrich tires and cheaper tires, and a general line of sundries such as is kept by a first-class store.

Stock will be divided into parcels to suit purchasers or the entire lot will be sold in bulk.

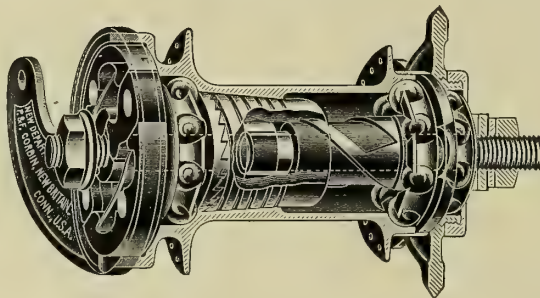
To men seeking bargains or to one with modest capital who desires to take over a long established business on the principal street of a thriving city of 40,000 inhabitants, no better opportunity ever offered.

RALPH D. WEBSTER

Trustee of W. H. PECK, Bankrupt,

213 West Water Street,
ELMIRA, N. Y.

IT WAS A
CORBIN
DUPLEX
NEW DEPARTURE
THAT
CAPTURED FIRST PRIZE
IN THE
OPEN COASTING CONTEST
HELD BY THE
Minneapolis Cycle Trade Association,
SATURDAY, JULY 12th.



The fact is interesting, but not surprising. It was simply a public demonstration of what the Corbin Duplex is doing in everyday use. It was built to lead, and does what it was built to do. If you are able to appreciate a coaster brake of the sort, let us hear from you.

P. & F. CORBIN, New Britain, Conn.

NEW YORK.

CHICAGO.

PHILADELPHIA.



DE LONG Motocycles

ALWAYS GIVE SATISFACTION.

There are no tanks or
bags attached to it.

FULLY PROTECTED BY PATENTS.



PRICE \$200.

INDUSTRIAL MACHINE CO.

SYRACUSE, N. Y.



Michael Returns to Bicycles Once More.

His second attempt to be a jockey having proven no more successful than his first, Jimmy Michael has decided to return to the bicycle. A cable from Paris states that once more he has permanently abandoned horse racing, has cancelled his engagement, paid forfeits, moved from Chantilly to Paris, taken quarters at the Parc des Princes track and begun to train in earnest for cycle racing. He is in poor shape, but expects to regain his form quickly. He has ordered two motor tandems, but will not race before the end of August.

Sand.

I observed a locomotive in the railroad yards one day.

It was waiting in the roundhouse, where the locomotives stay;

It was panting for the journey, it was coaled and fully manned,

And it had a box the fireman was filling full of sand.

It appears that locomotives cannot always get a grip

On their slender iron pavement, 'cause the wheels are apt to slip;

And when they reach a slippery spot their tactics they command,

And to get a grip upon the rail they sprinkle it with sand.

It's about this way with travel along life's slippery track,

If your load is rather heavy and you're always sliding back;

So, if a common locomotive, you completely understand

You'll supply yourself in starting with a good supply of sand.

You can get to any station that is on life's schedule seen.

If there's fire beneath the boiler of ambition's strong machine,

And you'll reach a place called Flushtown at a rate of speed that's grand.

If for all the slippery places you've a good supply of sand.

—(Sunshine.

Effects of Continuity.

The results to be derived from continuous advertising cannot be overestimated. That person or firm who desires to have their business grow and expand must continue to advertise. In continuity is strength. The advertising you did yesterday will help your advertising of to-day, and the advertising of to-day will help that of the morrow, and so on indefinitely.

The child that makes the greatest progress at school does not attend on Monday, then skip Tuesday, back Wednesday and then out again until the next Monday. He is in attendance every school day.

Continuity is strength. Therefore that person who would add strength to his business must keep it before the public continuously.

—(Ex.

Many Dealers and Riders

are content to accept any old saddle that comes with their bicycles when they could get the



PERSONS

merely by asking or in some cases by insisting on having it.

It not only represents the best and most comfortable saddle made but its money value is just that much greater and it should be every man's business to see that he gets the best value when it is within his reach.

PERSONS MFG. CO.

C. A. PERSONS, Pres.

WORCESTER, MASS.

RACING

The twenty mile paced race between Hall and Hunter at Atlantic City on July 10 was won by the former in 30:54 2-5. Hunter got a fall in the second mile and lost five laps, but resumed the race and finished strong. Hall won by thirteen laps. The five mile lap race between Fenn, Leander, McConnell and Lake was won by Fenn. Time, 11:45 2-5. The next evening Freeman defeated McConnell by two laps in a twenty mile paced race in 32:23 2-5. The race was nip and tuck up to the last five of the twenty miles. A team pursuit race between Fenn and Lake and Leander and Hunter was won by the former team in $2\frac{3}{4}$ miles, the time being 5:58 2-5. At the same place on July 12 Freeman won from Leander in two successive heats of a ten mile paced race, winning the first heat in 15:04 and the second in 14:41 2-5. The three mile single motor paced race between Gus Lawson and Fred Sinclair was won by Lawson in straight heats. Times, 4:31 2-5 and 4:23 4-5. The three mile paced tandem race in two heats between Thompson and Boak and Daley and Babcock was won by the former team in the first heat; time, 4:44 1-5. On the 14th Lawson in two close and exciting ten mile heats defeated Fenn before 4,000 persons. Lawson rode the first heat in 16:22 1-5, winning by a lap in a great burst of speed. The second heat was a runaway for Lawson, who covered the ten miles in 15:06 3-5. The five mile lap race was won by Hunter, with McConnell, Leander and Lake finishing in the order named. Of the special prizes for each lap, Leander won 12, McConnell 11, Lake 7 and Hunter 5. On the 15th Leander won first honors, with three competitors. In the first heat, between Hunter and McConnell, the latter dropped out in the third mile. The final heat, between Hunter and Leander, was very exciting. Leander crossed the tape a length ahead. First heat won by Hunter, five miles, time 8:07 1-5; second heat, Leander won by one lap in 7:51; final heat, Leander, by five feet, time 7:39. The feature of the evening was a motor race between two tandems and a single. A. Zimmerman and F. Sinclair won by five feet; J. Hunter, on the single, second, and Boak and Thompson third. Time, 4:28 1-5.

Six thousand persons saw Kramer win the first Spartan two mile race at Vailsburg on Sunday after a bruising battle of eight hard fought quarter-mile laps, there being a prize of \$10 for the leader of each lap. A short rolling start was given. At the crack of the pistol Hausman made fast play at once and led the first lap. Then Krebs made a desperate rush for the lead, and held it for three laps before he dropped back. When a mile had been covered the top notch cracks took up the fight. Bald and Fenn had a hard set-to for the fifth and sixth laps, and split even. Butler was well up in the lead when the bell rang, and Kramer was third. On the backstretch the champion tore by the

leaders to the fore, and, carrying the field the whole way, won by two feet from Bedell and a yard from Kimble. The time, 4:11, is the fastest ever made in an open race. In the half mile amateur run off, in five heats and a final, Hurley led throughout in this race, for which ten qualified. The fight for second place was between Billington and Glasson, the former getting the verdict. Coffey was a close fourth; time, 1:05 2-5. The five mile amateur handicap was run off in trial heats of two miles. Twenty-one riders worked their way into the final, with Hurley, Billington and Glasson on scratch. All three alternated pace, and the front markers were overhauled on the last mile. Schlee went to the front the last time around, with Hurley in pursuit. Schlee looked like a sure winner up the stretch, but Hurley pushed his wheel in front just before the tape was crossed. Glasson was third, with G. G. Cameron, lapped on his wheel, fourth. Joe Rockowitz was lap prize winner; time, 11:15. Hurley was scratch, Schlee 50 yards, Glasson scratch, Cameron 150 yards. The half mile professional handicap was run in four heats and a final. Kramer was thrown out of the race by the falling off of one of his toe clips in the third preliminary heat. Eight lined up for the final in this race, which was won by Ralph de Palma, the limit man, with 80 yards' handicap; T. J. Grady (50 yards) second, J. Bedell (30 yards) third, M. Bedell (55 yards) fourth, Floyd Krebs (40 yards) fifth; time, 0:56 4-5.

The twenty mile paced race between Champion, Hall, Butler and De Guichard which was to have taken place at the Manhattan Beach track on July 12 ended rather unsatisfactorily. At the start chains on two of the pacing machines broke, stopping the race. While these chains were being repaired the chain on a third machine, which was warming up, broke, further delaying the start; next Butler's pace was put hors de combat, and rather than delay the race longer it was called, leaving Butler out. After the men had gone a mile Butler's motor returned to the track; in the mean while the spectators were clamoring for the race to be stopped and Butler allowed to enter. After a consultation between the officials the management decided to do this. Upon starting the race for a second time, and before one mile had been ridden, the sprocket on Champion's motor broke, stopping the race again. By this time it was almost 8 o'clock, and it was decided to run the race over again on Saturday, July 19. Rain checks admitting spectators to the same seats were given out. Hurley, from scratch, won the two mile amateur handicap in 4:32 2-5, but failed to score in the five mile lap race, which fell to Charles Kastendick; time, 11:57. Walter T. Smith, on an Orient, ran away with the five mile motor bicycle race, in 8:13 2-5.

The three cornered fifteen mile paced race at Hartford on July 14 was changed to a two cornered race after the third mile, as Munroe pulled out after Nelson had passed

him. When the race was started Munroe had the pole, Caldwell was No. 2 and Nelson was on the outside several lengths to the bad. Caldwell passed Munroe on the third lap. Munroe and Nelson had a pretty race for a place for two miles, and in the third mile Munroe dropped out. In the third lap of the fourth mile Caldwell lapped Nelson. In the second lap of the sixth mile he gained another lap, and was a half mile to the good in the third lap of the eleventh mile. While rounding into the homestretch in the twelfth mile Caldwell was seen to take a header. He jumped up quickly and had a remount before Nelson could gain more than one lap. Nelson had difficulty in keeping the pace at this time, and Caldwell soon made up the lost lap; continuing in the lead, he finished an easy winner in 23:19 2-5.

The grand circuit for the national professional championship opened on July 12 at Revere Beach, Mass. The championship event, the half mile, was captured by Kramer, Collett second, Bald third; time, 0:59 3-5. There were four heats and a final. The ten mile professional open was a series of sprints, in which Moran, Mettling, Schreiber and Keegan led. Lawson held back for the final sprint and won. Rutz was second, Bedell third and "Plugger Bill" Martin fourth. Time, 22:43. The one mile amateur handicap was won by C. L. Kimball (scratch), E. F. Root (scratch) second; time, 2:00 2-5. The ten mile amateur open Joe Curry won, E. F. Root second, E. G. Dow third; time, 24:50.

Elkes went up against several kinds of hard luck in his twenty mile paced race with Walthour at Hartford on July 11, and lost the event by nearly four miles. He was wholly without pace for most of the time, owing to the breakdown of both his motors. Walthour's 9 horsepower motor acted perfectly throughout the race, furnishing ideal pace, and he reeled off the twenty miles in 30:52 2-5. By the fifth mile it was seen that Elkes could not make any showing, as he was then two miles behind, and the officials tried to get Walthour's manager to start the race over, but he refused, and Elkes plugged away doggedly to the end.

At Calais on June 30, and just before leaving for home, Major Taylor defeated in a decisive manner Bourotte and Gougoltz, who were mounted on a tandem. In the first heat of 1,000 metres Bourotte and Gougoltz led to the last lap, when Taylor closed the gap and finished ahead by a wheel. In the second heat about the same tactics were observed, Taylor finishing with an irresistible sprint. The last lap of 333 metres was done in the record time of 19 4-5 seconds. Taylor received a great ovation.

In the one hour paced race between Champion and De Guichard at Pittsburg on July 15 both broke the American record, held by Elkes. Champion went 41 miles 365 yards, which is $2\frac{1}{2}$ miles more than Elkes made. De Guichard made two miles above Elkes's record.

The Week's Patents.

704,029. Bicycle. Oliver W. Griffiths, Brooklyn, N. Y. Filed May 14, 1896. Serial No. 591,505. (No model.)

Claim.—1. In a bicycle, the two wheels, each mounted in a separate turning post at the extremity of the vehicle frame, and two arcs connected by cross links, a, b, one of which arcs is arranged to support the feet of the rider, substantially as explained, the turning of one arc with the feet compelling the turning of the other in the opposite direction, for the purpose of steering, the whole vehicle being arranged to be propelled by the hands and arms, for the objects set forth.

704,138. Crank Hanger. William B. Spencer, Chicago, Ill. Filed Sept. 19, 1900. Serial No. 30,495. (No model.)

Claim.—1. The combination with a hanger band and separate heads, of a hanger sleeve piercing the heads eccentrically and capable of endwise adjustment, and locking rings screwed upon the sleeve and clamping against the outer faces of the heads to retain the sleeve in its adjusted positions and to retain the heads in place.

704,145. Attachment for Bicycles. Felix W. Talley, New York, N. Y. Filed Jan. 11, 1902. Serial No. 89,383. (No model.)

Claim.—In combination with a bicycle an attachment consisting of a rotary disk having intersecting grooves and blocks fitted so as to slide back and forth therein, a connecting rod pivoted at one end to the sliding blocks, its opposite end being connected to a crank secured to the shaft of the driving wheel, the connecting rod slotted centrally so as to admit of longitudinal and vibrating movements over a fulcrum secured to the frame of the vehicle, substantially as herein set forth and shown.

704,159. Bicycle Handle Bar. William N. Whitely and William N. Whitely, jr., Springfield, Ohio. Filed Jan. 23, 1900. Serial No. 2,499. (No model.)

Claim.—1. In a bicycle handle bar construction, in combination with the handle bar post, of vertically adjustable handle bars, separately and pivotally mounted upon said post, a link, corrugated upon its face around its eyes, engaging the handle bars by similar corrugations upon their faces, two separate and independent screw threaded pivotal clamping bolts passing through the eyes of said link and bearing apertures of said bars and having screw threaded connection with said post; said link and bolts forming the supporting and adjusting means of the bars upon said post.

704,161. Bicycle Support. Reuben O. Wilcox, Wichita, Kan., assignor to John H. Modrell, Wichita, Kan. Filed Oct. 7, 1901. Serial No. 77,879. (No model.)

Claim.—In a bicycle support, the combination of a support frame provided with means of attachment to a bicycle frame, a head swivelled to the support to swing in a plane parallel to the bicycle frame and having laterally projecting ears formed with aligned apertures, a prop inserted through said apertures and provided with a stop pin adapted to limit its downward movement, and fastenings carried by said support, one located below and in the vertical line of the head, and the other above and to one side of the vertical line of the head, for securing the prop against movement when adjusted in contact with the ground, or elevated, substantially as set forth.

704,288. Bicycle. Anders G. Anderson, Worcester, Mass., assignor to Edmund Con-

verse, Worcester, Mass. Filed Nov. 27, 1899. Serial No. 738,398. (No model.)

Claim.—1. In a bicycle frame, the combination of a tubular prong having its end reduced in thickness and forming a shoulder, an interior tube having one end inserted in the end of said tubular prong and having the diameter of its opposite end equal to the diameter of the reduced section of said prong and a tubular strut inclosing the enlarged end of said interior tube and the reduced section of said prong with the overlapping surfaces of said prong, interior tube and inclosing tubular strut brazed together, substantially as described.

704,317. Bicycle. Harry B. Gillis, Mishawaka, Ind., assignor of one-half to Mathias Lang, Mishawaka, Ind. Filed July 7, 1897. Serial No. 643,732. (No model.)

Claim.—1. A detachable brace for bicycles consisting of a substantially U-shaped bar provided at one end with a clamp to engage the steering head, at the other end with a clamp to engage the upright seat support, and intermediate the two ends with a clamp



NEW YORK BRANCH: 214-216 WEST 47TH STREET

engaging the drop portion of the bicycle, substantially as described.

704,377. Means for Propelling Vehicles. Andreas Rieber, Flensburg, Germany. Filed Sept. 20, 1901. Serial No. 75,998. (No model.)

Claim.—The combination, in a vehicle frame, of a front brace, a pair of side bars, a forked arch connecting the front brace with the two side bars, a crank shaft journaled at the junction of the front brace and side bars, a tubular upright open at both ends, supported at its lower end in the arch, bushed or thickened at its lower end and provided with a longitudinal slot, a saddle post slidably mounted in the tubular upright and projecting at the upper and lower ends thereof, a pitman connecting the lower end of the saddle post with the crank shaft, a spring coiled about the saddle post in the tubular upright and having a lower bearing upon a thickened or bushed portion of said upright, a ring adjustable on the saddle post and forming the upper bearing of the spring, and a set screw projecting through the slot in the tubular upright and serving to secure the ring to the saddle post in any adjustment within the limit of the length of the slot, substantially as described.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

The Exercise of Motocycling.

Some of the writers on the English cycle press are in a controversy over the question, "Does motor bicycling furnish exercise?" Two writers hold that it does not, and at least one of them confesses to never having ridden one, but holds that he is qualified to write authoritatively, on the basis that an art critic may not be an artist. The third writer, a well recognized motorcycle expert, is the cause of the argument from an affirmative statement by him some time ago.

After destroying the specious "art critic" comparison he gives the following good reasons in support of his original statement:

"Leaving out the question of the involuntary exercise sometimes necessitated by a refractory motor, there is plenty of wholesome exercise in riding the most docile of motorcycles in apple-pie order. Apart from the few strokes of the pedals occasionally requisite to start from a standstill and to help the engine uphill, the mere sitting on a saddle, balancing by pressure upon pedals and handles, steering and manipulating the levers entail continuous exercise.

"Would my opponent suppose that if he were riding a free-wheel bicycle down a long mountain pass there would be no exercise entailed in merely balancing and steering? It would be a very delightful exercise, and the rush through the air would be extremely beneficial to the lungs and skin. Why, even riding in a luxuriously upholstered motor car, with some one else doing the steering and driving, is a first rate exercise for people of sedentary, delicate or indolent habit.

"Where the motocyclist gets the bulge over the cyclist who provides his own motive power is that he does not get muscularly fagged, strained or cramped; and it is because the exercise is not violent that he does not perspire to anything like the extent that the pedalling cyclist does. Hence he does not acquire the excessive thirst or the gnawing hunger with which the pedaller is afflicted."

Unprotected Spark Controllers.

Frequently one comes across motor bicycles in use from which the contact breaker is missing. Why the protective cover to this delicate piece of mechanism is omitted, so as to leave it exposed to the weather and to dust which will mix with the exuding oil, is hard to understand.

Situated as it is, so near to the ground, dust is bound to settle on the contacting surfaces, thus preventing the platinum points from being as clean as is necessary for perfect make and break. The causes and details of this have before been pointed out very fully in these columns.

A motocyclist may get along fairly well with the contact breaker thus exposed in fine weather and if the roads are first class, but over dusty or muddy roads the result is bound to be that the sparking will go wrong sooner or later.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

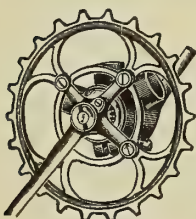
Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE of BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

**"D. & J." HANGERS**

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.
ABSOLUTELY THE BEST

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

—AND—
The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY

THE NATIONAL CEMENT & RUBBER MFG COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

**MORSE TWIN CHAIN
ROLLER**

NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

FOR SALE—Brand new latest model Marsh
Motorcycle, \$125. E. H. CORSON, New Eng-
land Agent for Merkel Motorcycle, 100 Boylston
St., Boston.

**ELWELL
EUROPEAN MOTOR CYCLE TOURS.**

England and France, August 20, 1902.

Great Britain and the Continent starts June, 1903.

F. A. ELWELL, 58 Prospect St., Waltham, Mass.

**The Only Tires Fit For
Motor Bicycles—****GOODYEAR****DETACHABLES**

GOODYEAR TIRE & RUBBER CO., AKRON, OHIO

You all know what the diamond stands for among
precious stones. You can't well afford
not to know that

D-I-A-M-O-N-D-T-I-R-E-S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.

IDEAL HANDLE BARS

made in all shapes with extensions in 2½ inches, 3½ inches and
5½ inches forward throw. Also with straight stems with and
without internal binders. The cheapest bar on earth, quality
considered. Sole manufacturers

IDEAL PLATING CO.,

3 Appleton Street, BOSTON, MASS.

ALL ROADS ARE EASY WHEN THE

**STAR
BALL
RETAINER**

IS USED.

With millions in daily use, it has stood the test for
more than five years, and is adaptable to ball bearings of
any kind.

If you are users of ball bearings we would be pleased to hear
from you and mail you our catalog with the latest information,
which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.

The Admiral

THE ONLY LAMP WHICH BURNS
EITHER OIL OR GAS.

...Made by...

THE ADMIRAL LAMP CO., - Marysville, Ohio.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

Wolff-American Bicycles.

STEARNS BICYCLE AGENCY,

General Distributors,

SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

Morse Chain Co., Trumansburg, N. Y.

The Week's Exports.

Last week was an "off" one in the matter of exports. There were but two shipments of any volume—those to France and England. The record in detail follows:

Antwerp—11 cases bicycles, \$541; 31 cases bicycle material, \$784.

Azores—6 cases bicycle material, \$351.

Amsterdam—24 cases bicycles material, \$760.

British Australia—7 cases bicycle material, \$35.

British Australia—8 cases bicycles and material, \$545.

Bremerhaven—5 cases bicycle material, \$125.

Brazil—1 case bicycles, \$55.

Bremen—2 cases bicycles, \$40.

British West Indies—28 cases bicycle material, \$755.

Central America—1 case bicycles, \$15.

Cuba—2 cases bicycle material, \$120.

Copenhagen—51 cases bicycles, \$770; 9 cases bicycle material, \$423.

Dutch West Indies—7 cases bicycles and material, \$80.

Egypt—27 cases bicycles and material, \$345.

Glasgow—20 cases bicycles, \$600.

Genoa—29 cases bicycle material, \$965.

Havre—76 cases bicycles, \$951; 60 cases bicycle material, \$1,701.

Hamburg—4 cases bicycles, \$125; 8 cases bicycle material, \$210; 1 case motorcycle, \$75.

Liverpool—96 cases bicycles, \$1,465; 18 cases bicycle material, \$808.

London—7 cases bicycles and material, \$360.

Milan—1 case bicycles, \$40.

Malta—1 case bicycle material, \$100.

Nova Scotia—1 case bicycle material, \$20.

Peru—1 case bicycle material, \$49.

Riga—13 cases bicycles, \$800.

Rotterdam—2 cases bicycles, \$71; 23 cases bicycle material, \$1,210.

Southampton—47 cases bicycle material, \$2,544.

St. Petersburg—1 case bicycle material, \$15.

Stockholm—14 cases bicycle material, \$389.

U. S. Colombia—2 cases bicycle material, \$24.

Warberg—3 cases bicycle material, \$205.

Tourist Cars on the Nickel Plate Road.

Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fridays. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest ticket agent, or write A. W. Ecclestone, D. D. Agt., 385 Broadway, New York City. ***

Through Sleeping Car Line to Grand Rapids, Mich.

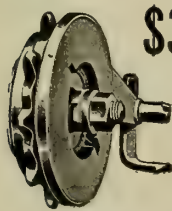
A Pullman Sleeping Car of latest construction is now attached to New York Central train leaving Grand Central Station at 4:00 p. m., daily, running through over the Michigan Central, arriving at Grand Rapids at 12:55 p. m., next day, connecting in Union Station for all points in Western Michigan. For information and sleeping car reservations inquire of New York Central Agents. ***

"PERFECT"**OILER.**

For High Grade Bicycles. The best and neatest Oiler in the market. DOES NOT LEAK. The "PERFECT" is the only Oiler that regulates the supply of oil to a drop. It is absolutely unequaled. Price, 25 cents each.

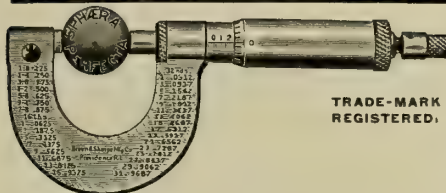
We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK

**\$3.00 Coaster Brake****FITS ANY HUB.**

Screws on in place of the usual sprocket. Anyone can apply it. For free booklet and particulars, address

Canfield Brake Co., Corning, N. Y.

**STEEL BALLS**

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

DEALERS.

WE CAN MAKE YOU IMMEDIATE SHIPMENTS IN
BICYCLES that retail at **\$15 to \$20**

If you are bothered in getting shipments from factories, write us for catalogues and samples.

PRICES RIGHT.

E. P. BLAKE CO., 57-59 Sudbury St., Boston, Mass.

The

CUSHION FRAME

is just as essential to comfort as the

PNEUMATIC TIRE

and in time all bicycles should be Cushion Frame bicycles just as all bicycles are now pneumatic tired bicycles.

TO HASTEN THAT HAPPY DAY

simply requires proper appreciation and push on the part of the cycle dealer.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of everything. Call on any agent for tickets or address

481 Broadway • New York 435 Vine St., • Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburg
388 Washington St., Boston 234 Superior St., Cleveland
301 Main St., • Buffalo 17 Campus Martius, Detroit
212 Clark St., • Chicago 2 King St., East, Toronto, Ont.



The Authority of the Cycle World

RELIABLE NEWS

— ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.

Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Through all bookshops and newsagents or from the

Publishers

ILIFFE & SONS Limited,

3, St. Bride Street, London, E.C.

and NEWSPAPER STREET, COVENTRY

THE BICYCLING WORLD

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from St. Thomas to Chicago. Both trains run daily and are made up of the most modern and luxurious vestibuled Sleeping Cars.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence, Waterloo, Webster City, Fort Dodge, Rockwell City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars, free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all Through trains.

For tickets and information apply at any principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,

49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, July 24, 1902.

No. 17

NOTHING DONE YET

A. B. C. Directors Again Adjourn Without Action—Col. Geo. Pope Refutes Rumors.

Rumor has once more been dealing freely with the affairs of the American Bicycle Co. during the past two weeks. To the approach of the close of the company's fiscal year is due most of the gossip. Coupled with the self-announced intention of President Coleman to retire and the general understanding that the Pope interests had bought the stock control of the corporation, tongues have wagged as they have not wagged since the early days of the concern's establishment.

Briefly, reports have stated that not only President Coleman, but President Bromley, of the American Cycle Manufacturing Co., would retire, and with them three of their lieutenants; that not Colonel Albert A. Pope, but his brother, Colonel George Pope, would succeed to the presidency of the A. B. C., and that the headquarters of the company would be removed from New York to Hartford.

It was expected that some or all of these things would transpire at a meeting of the directors held on Tuesday last. The meeting occurred, however, but without results of any kind. It convened only to adjourn.

Asked when the adjourned meeting would be held, Colonel George Pope stated that the date was subject entirely to the decision of the president.

"It may occur in four days or a week or ten days," he added.

"Is it likely that President Coleman will then offer his resignation and not wait until the annual meeting in October?" he was asked.

"It is quite possible. He has wanted to retire for some time."

"Is it true that Mr. Bromley also will resign at the same time?"

"I certainly have no reason to think so; in fact, I do not believe it is at all likely. He tendered his resignation a month ago, but was induced to withdraw it."

When Colonel Pope was asked concerning

the other three resignations that rumor said had been filed, and the men were named, he smiled.

"I've heard absolutely nothing about them," he responded. "If the men you name have resigned their resignations must be either in their pockets or their hearts."

Colonel Pope smiled even more broadly when the Bicycling World man put to him the question regarding his own accession to the presidency of the corporation.

"That story was printed some time ago," he said, "and led to my receiving quite a few letters of congratulation. But it is absolutely untrue. Nothing of the sort is probable; indeed, I would not accept the position were it offered me."

"Is it likely, then, that Colonel Albert A. Pope himself will be the president?"

"It is not unlikely. Certain negotiations are in progress, and until they are arranged there is nothing to be said on the subject. The negotiations are of a confidential nature that forbid my speaking of them. But there is no friction inside the company, and Mr. Coleman and Colonel Pope are on the best of terms."

"And about the mooted removal of headquarters to Hartford?"

"There's nothing in it. That story originated in Hartford, where Colonel Albert has been reported to be doing all sorts of things, buying the Hartford Rubber Works, among them. New York is the logical headquarters of the American Bicycle Co., and they will remain here. There was some talk about removing the Eastern sales department to Hartford, but I hardly think that will come to pass. Certainly I will vote against it."

Red Tires for the Far East.

The predilections of the Oriental races for marked colorings has often been remarked and has been responsible for overcoming some of the prejudice that existed against single tube tires in the Far East countries, notably Japan. The Diamond Rubber Co. are the gainers by being the first to turn the Oriental trait to advantage. O. J. Woodward, the New York representative of the Diamond Company, recently showed the Bicycling World man a Diamond single tube tire colored red, which had been the means of securing a substantial order from Japan.

RICE FINALLY QUILTS

Once a Power in Jobbing Trade now Applies for Winding-up Order—Assets, \$15,000.

The C. M. Rice Co., of this city, which, as jobbers in bicycle fittings and sundries, at one time was at or near the top of the heap, are now paying the penalty of permitting more aggressive competitors to elbow them out of the position; in other words, they are preparing to quit.

A court order was this week entered to take proof and report as to the merits of the application of the company for a voluntary dissolution of the corporation, as the business was not sufficiently remunerative to warrant continuing it. The company has no liabilities, and the assets were valued at \$15,000. Part of the stock was in this city and part in Boston. George D. Boles was president and Charles M. Rice secretary. The capital stock of the company is \$15,000, of which Mr. Rice owns \$9,500 and Mr. Boles \$5,000. The company was incorporated in January, 1899, but the business had been established several years previously.

Death of an Old Tradesman.

At Marshall, Mich., last week, after a lingering illness extending over a couple of years, died Charles H. Weld, of consumption.

A decade and a half ago Weld was a well known figure in the trade at Providence, R. I. In the early nineties he left there and went to Marshall, Mich., where he became superintendent of the Royal Cycle Works. He remained in that position for a number of years, until the falling off in the business caused the concern to abandon the manufacture of bicycles.

Afterward Weld went back to Providence, becoming a member of the firm of W. W. Whitten & Co., and upon severing his connection with them, he went on the road for a Western concern. Two years ago he was obliged to give up active business. A trip to Mexico resulted in only a temporary improvement in his health, and a short time afterward he returned to Marshall to die.

Weld was under forty, and in his younger days was strong and hearty, and much interested in racing, being himself a rider of no mean ability. He left a widow and one child.

LEAGUE MEET LUKEWARM

Not a Howling Success but There Have Been Worse—The Chief Occurrences.

In all truth it cannot be said that the 23rd annual meet of the L. A. W. at Atlantic City was a howling success; neither was it a flat failure; indeed, the meets of late years have been such spiritless, poorly attended affairs, that by comparison the Atlantic City function came near to be a lukewarm success.

Had not the old mistake of attempting to spread it over four days—July 16 to 19—for the benefit of the hotelkeepers, the success of the meet would have been far more pronounced. As it was, the four days' event was like a knife of butter spread over a whole loaf of bread. Chairman Schell performed his work well, and gave the meet unusual preliminary publicity. The result was an attendance that by recent standards was also unusual—from 500 to 800—but the Atlantic City papers hurt matters by heralding the tens of thousands of League members by multiplying each batch of arrivals by multiplying each batch of arrivals by anywhere from 10 to 100. The result was general disappointment.

The meet lacked spirit, cohesion, and in some instances direction. It was too much a go-as-you-please affair.

The motor bicycle race fell through abjectly and without notice, much to the chagrin of George M. Holley, of Bradford, Pa., about the only man who came prepared to enter the event. The parade was a badly managed affair and little short of a fizzle. Few appeared to know anything about it, and the start was made with less than 100 riders in line; probably fifty more were gathered in along the route. Of the ancient and more or less honorable "annual photograph" there appeared to exist small knowledge; and but for strenuous efforts the picture would have been made up mainly of Atlantic City youngsters. The daily runs from Philadelphia were slimly attended, the "meeting of the national officers" simmering down to a meeting of three members of the executive committee—President Howell, Vice-President Belding and Secretary Bassett. There is a story current that in some way one of the high and earnest privates of the League—Will R. Pitman, of New-York—broke into this meeting and gave voice to some emphatic views in which his plainly spoken opinion that League officialdom was suffering from an excess of "dead ones" was expressed. At this meeting it came out that the L. A. W. owes the Canadian Government some \$500 for bicycles taken duty free into the Dominion under the arrangement with the L. A. W. and of the return of which the government has no record or trace.

The brightest spots of the meet were per-

haps the Good Roads Convention, the Pioneers' dinner and the midnight smoker.

John B. Uhle, of New York, was the chairman of the Good Roads meeting. The chief speakers were Henry I. Budd, Road Commissioner for the State of New York; an individual named Earle, who is understood to represent the manufacturers of road improvement machinery, and who launched a wild eyed scheme of connecting the capitals of all States one with the other; the Hon. M. O. Eldridge, of the Road Inquiry Office of the Government Agricultural Department, who compared American and English roads, and H. B. Fullerton, of Long Island, who spoke on the value of good roads generally,

them to the effect that the League's workers had grown old and that young men were needed. When he had his say, Will R. Pitman, who is both as old and as young as any of them, retorted that it was not men's ages that was responsible, but men's inactivity. He asserted that there were many willing workers to be found and who were known but not wanted. He said "right out in meeting" that the "dead ones" who occupied office and who apparently did not know they were "dead," were the weights that held down the organization. Old "Pop" Morrow, the gray, grizzled and one-armed veteran from Ada, Ohio, spoke to the same effect, and cited the fact that he had paid

ONE DOZEN OF THE FAITHFUL FEW.



FRONT ROW—Will R. Pitman, President W. A. Howell, Secretary Abbot Bassett, Geo. M. Schell, ———
REAR ROW—H. B. Fullerton, H. M. Valentine, ———, John B. Uhle, E. P. Crichton, L. C. Bardman, ———

and who illustrated his talk with lantern slides. Some of the pictures showing roads before and after improvement were so impressive that the audience fairly gasped. Commissioner Budd, of New Jersey, expressed the difference between the past and the present very happily.

"It is no longer the bicyclists who are clamoring for good roads," he said, "it's the farmers. Where but a few years ago I had to fight to get them to listen to me, now I have to fight to keep them away from me, they come at me in such numbers.

Forty-seven sat down to the Pioneers' banquet, to which women for the first time and in some way—Bassett-way, it is charged—obtained entry. Practically every other man present made a speech or what may be termed a speech. There was much talk of the League's past greatness and of what it might be coupled with, several wails from men whose years did not appear to burden

full fare to the meet as an instance of the things left undone.

Abbott Bassett was the toastmaster of the occasion, and supplied an infusion of hope by picturing what might happen did Colonel A. Pope again extend a helping hand. In part, he said:

"This is the sixth annual dinner of the pioneers. We have twelve more here than were at Buffalo. It affords me great pleasure to welcome the old guard, those that stick to the League. Every wheelman owes a dollar to the League of American Wheelmen for what it has done to make cycling popular and a pleasure. We have not had the support of the trade, in whose interests we are always working. After this we hope it will be different. Years ago I wrote the first book on good roads. When it was ready I went to a man and told him it would cost \$450. He said, 'Print it and send the bill

(Continued on page 460.)

OVERLOOKED LETTER

When Found, it Fails to Influence Patent Office—New Departure Appeal Denied.

The second or third bout of what is proving one of the most stubbornly fought interference cases involving a cycling invention which has occupied the attention of the Patent Office in some years was last week decided in favor of the American Bicycle Co., who fell heir to the patent as successors to the Pope Mfg. Co.

The fight, which involves a coaster brake, is a three cornered affair, the parties in interest being the A. B. C., the New Departure Manufacturing Co., and one William Robinson, the first-named having filed the interference. The question involved is one of principle rather than application or design. The applications in issue are those of William Robinson, filed September 18, 1899, No. 730,817; of H. P. Townsend, filed October 10, 1898, No. 693,117, and that of James S. Copeland, filed April 29, 1898, No. 679,185.

The American Bicycle Co., as owners of the Copeland patent, scored first blood, and the New Departure people promptly appealed. The decision handed down last week denies this appeal in the following language: "The showing in support of this motion consists of two affidavits, one by Albert F. Rockwell, secretary and general manager of The New Departure Manufacturing Company, of Bristol, Conn., the assignee of Townsend, and the other by T. H. Anderson, the attorney of record for Townsend.

"It appears that the motion was brought because of the discovery of a certain letter which was inclosed in an envelope placed among other papers in the vaults of The New Departure Manufacturing Company. This letter is thought to be material to Townsend's case. It is desired to take the testimony of several enumerated witnesses with respect to the alleged disclosure of the invention by Townsend to Copeland and others of the Pope Manufacturing Company, the assignee of Copeland.

"It is admitted by Rockwell that the vaults of his company had already been searched for evidence relating to this interference prior to and during the taking of the testimony. The envelope which contained the letter in question was found at that time; but because it had a certain indorsement placed upon it the contents of the envelope were allowed to remain undisturbed, and consequently the letter therein was not then discovered. In view of these facts Townsend cannot be held to have been sufficiently diligent in making his original search. The letter was in his possession all the time. The only reason that he did not find it was that he did not happen to look in the envelope in which it was inclosed when the envelope was before him.

"As stated by the Examiner of Interfer-

ences, 'there is no setting forth of facts to which the witnesses will testify.'

"The reasons set forth do not warrant the reopening of this case. (Schmiedl v. Booth, 57 O. G., 695; Edison v. Maxim v. Swan, 57 O. G., 696; Sutter v. McDonnell v. Jolly v. Neff, 98 O. G., 1484.)

"The decision of the Examiner of Interferences is affirmed."

Rain Mars Philadelphia Parade.

Rain on Monday evening spoiled what had every appearance of being one of the most pretentious lantern parades ever undertaken—the one promoted by the Philadelphia Cycle Dealers' Association.

Some two thousand paraders had already passed the judges' stand, and many hundred more were in line when the rain fell, causing a breakup of the parade and a hasty scattering of the thousands of spectators who lined Broad street at the time.

There were more floats than is usual in such turnouts. Two riders had their wheels arranged as a sloop, and, rigged in sailor attire, the affair presented a decidedly nautical look. There was also a huge float surmounted by the Goddess of Liberty, while Charles Donigan and Julius Molt had two tandems cleverly arranged as a float symbolic of America, on which was Uncle Sam, Goddess of Liberty and Cuba were fittingly represented. One set of wheels was arranged as a Bowery shop, and the facetiously painted signs thereon created no end of merriment.

The Eagle Wheelmen, arrayed in immaculate white, were a feature of the display, as was a rider who had his wheel arranged as a wigwam, and who, dressed as an Indian, created no end of merriment when the deluge of rain came by stopping and using his wigwam as a place of shelter.

As not all of the paraders passed them, the judges made no awards. The promoters will probably set another date for the event.

Sunk Two and a Half Millions.

It almost takes one's breath away to think of the colossal failure one Hepworth, a rich cotton spinner, of Manchester, Eng., and a would-be Napoleon of the cycle trade, made. He sunk more than £500,000 (\$2,500,000), in the effort to establish the Yorkshire County Cycle Co., the effects of which were sold out a short time ago for the proverbial song.

Hepworth started too late. He turned his attention to the cycle business just at the time it had reached its apex, and before he could get things going it was deep in the Slough of Despond.

A gigantic factory was erected and stocked with a most magnificent equipment of American automatic machinery. It was the intention to turn out bicycles on a scale never heard of in England, but matters never got much beyond the intending point. Things went from bad to worse, demands for more money being the principle happening, until the end came with the result noted.

RULES FOR TEST

How the 50 Miles Economy Trial Will be Run—Ribbons for Non-Stops.

Present indications make it seem extremely probable that the 50 miles economy or fuel consumption test which occurs on the Manhattan Beach track August 9th, under the auspices of the New York Motor Cycle Club, in conjunction with the race meet on that date, will result in the appearance of the largest number of motor bicycles ever seen on a track, and consequently in a display that will be as spectacular as the results will be interesting and instructive. Practically every make of motor bicycle will be represented, while the makers of carburetters are not lacking appreciation of the opportunity the occasion offers for a public demonstration of the effectiveness of their devices.

As several intending competitors have expressed an intention of completing the entire distance without a stop, the promoters have decided to offer blue ribbons for all non-stop performances regardless of the quantity of fuel consumed.

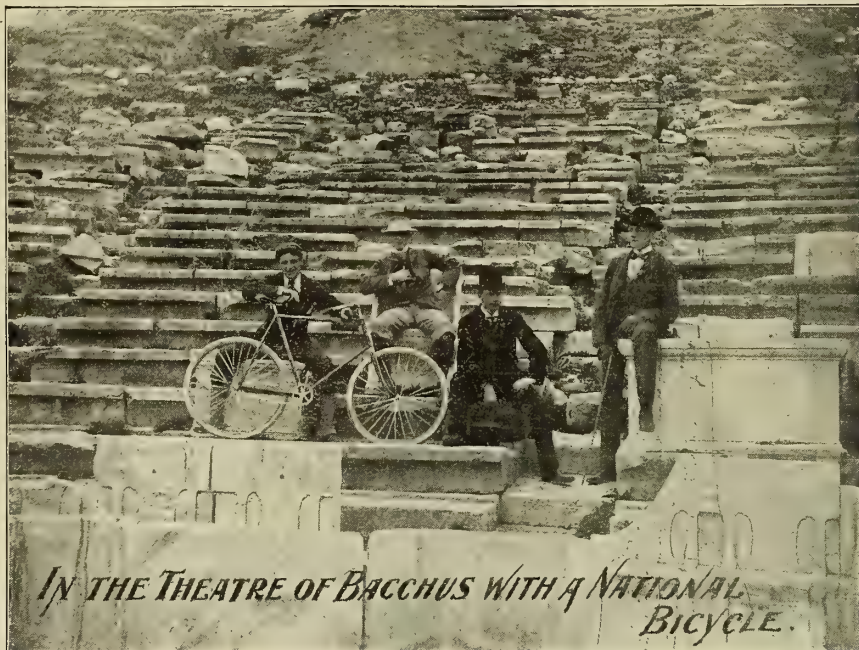
As not all motor bicycles are equipped for the purpose, a total stoppage of ten minutes will be permitted for the refilling of gasolene tanks, lubrication, etc. The other most vital rule deals with pedaling. After starting no contestant will be allowed to pedal on more than three separate occasions or to pedal more than one-half lap—the track is three laps to the mile—at any one time, this, of course, without regard to the pedaling required to start the machines after such stoppages as are legalized by the rules.

Gasolene will be provided by the promoting club, competitors being obliged to deliver their machines to the judges with the tanks perfectly empty.

An English Pioneer Dead.

There died at Coventry, England, on July 3, at the age of 72 years, John Thomas, one of the pioneers of the English bicycle trade. It was in the bone shaker era, in the late sixties, that Thomas first became connected with the two-wheeled machine, first as an agent and then as a manufacturer. In company with Thomas Bayliss and John Slaughter he founded the firm of Bayliss, Thomas & Co., which afterward did quite an extensive business in this country with the Excelsior bicycle.

The humble beginning of the afterward famous concern is best seen from the fact that it first occupied a workshop adapted from two small tenements, and the height of their ambition at that time being to manufacture six machines a week and sell them. Then came the "spider" wheel and the increased popularity of cycling, and the business outgrew the small shop to which it was originally confined.



THE SAME OLD STORY.

PHILADELPHIA, PA.,

May 23, 1902.

NATIONAL CYCLE CO.,

BAY CITY, MICH.

GENTLEMEN:—In June, 1899, you sold me from the factory one of your \$60.00 wheels. There are plenty of cheap wheels for sale here, in fact, they almost give them away; but my experience with your wheels has been such that I would not think of looking further.

No. 15627 has been in constant use, averaging from ten to fifteen miles daily over all sorts of city streets, and all it cost me in repairs is: 35 cents for cone in pedal, 75 cents for two rods through front and rear hubs, 5 cents for two small balls, \$1.25 for new chain, and last spring two new Goodrich tires, the first ones having worn through the canvas, exploding only because of thinness. The wheel runs as easy as ever. This is a record hard to beat.

I do not know whether you have an agency here or not. If you can sell to me direct, please send circular of 1902 models. Yours truly, JOSEPH J. MAGIN.

A NATIONAL RIDER NEVER CHANGES HIS MOUNT.

NATIONAL CYCLE MANUFACTURING CO., - Bay City, Mich.

Durability.

Quality.

Resiliency.



FISK TIRES

HAVE ALL OF THESE AND OTHER POINTS WHICH GO TO MAKE THEM THE BEST.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SYRACUSE,
423 So. Clinton St.

SPRINGFIELD,
40 Dwight St.

BUFFALO
28 W. Genesee St.

NEW YORK,
83 Chambers St.

DETROIT,
252 Jefferson Ave.

PHILADELPHIA,
916 Arch St.

CHICAGO,
54 State St.

WASHINGTON,
427 10th St., N. W.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00
Single Copies [Postage Paid] . . . 10 Cents
Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, JULY 24, 1902.

Advance of the New Generation.

As man has been declared to be an imitative animal, so the youth takes his cue from his elder and sneezes when the latter takes snuff.

When, therefore, the world turned its back on cycling, and the latter passed into partial and temporary eclipse, the rising generation shared in the indifference displayed. Egged on by the example of erstwhile cyclists, it, too, gave the wheel the go-by and held in check its natural inclination toward the exciting and exhilarating pastime.

But such a state of affairs could not continue indefinitely. Youth craves excitement such as the bicycle yields in an almost unequalled manner, and the longer it abstains from it the stronger does the desire to yield become.

It can scarcely have escaped the attention of close observers that the number of young riders is increasing—slowly, to be sure, but yet steadily.

They are encountered in the greatest num-

bers in the towns and cities or their vicinities, of course. Yet they are beginning to venture further afield, to take longer trips and explore hitherto unknown territory, just as we did a decade or two ago. That they should get equal enjoyment out of the pastime is a wish made as a matter of course.

It is in this direction that the gaze of those who look for a return of the old riding enthusiasm, and with it, of course, the old disposition to overdo things, to ride unlimited centuries, to scorch at the slightest provocation—or without it, for the matter of that—and to do the other foolish but pleasurable things that were our delight in our salad days, should be directed. No human power can prevent them from doing the unwise things, any more than it can put off indefinitely the time when the cycle will appeal to the children of to-day as it did to their fathers and mothers.

As for the rest of us, we must be permitted to take our cycling pleasures more sedately.

The Matter With the L. A. W.

In speaking of the League of American Wheelmen, The Sunday Call of Newark, N. J., does not mince matters. It says:

"Put it plain. The L. A. W. meet at Atlantic City was a flat failure when one considers that the league ought to be in touch with every wheelman in the United States. The causes of decadence need not be discussed here, but they exist. Much dry wood needs to be chopped out. Does any one in Newark ever hear of the L. A. W. or its local representatives? And yet there isn't a dealer in town who wouldn't cheerfully be a consul and work as such, looking after the street sprinkling question, the reckless tearing up of pavements, the prosecution of bicycle thieves, more numerous this year than ever, and a hundred other things of interest to the wheelman. Is there a good driving road from Newark to the Oranges? On the good roads question alone the L. A. W. could recruit a thousand members in a month in Essex county alone, not wheelmen only, but automobile men and drivers of horses. The Call some time ago published a letter bearing on the subject, but there was no response to it. The league has been petrified for years, and will remain so until the fossils drop off and out of office. It is a pity to see it decline in membership and influence when there is such a big field for it wherein it might be useful."

In stamping the league meet "a flat failure" the Call puts it too strongly. It was hardly that bad. "An indifferent success" is probably a fairer characterization. To practically all else that the Call states we can say "Amen," and add that the same conditions that exist in Newark exist else-

where. While not decrying it and not saying that it should be omitted, we do not, however, take great stock in "good roads" as a recruiting cry. All who use vehicles wish for good roads; it is only the comparatively few earnest enthusiasts who will work for them and give a dollar to that end.

But there are many other fields of usefulness for the L. A. W. were the right men put in the right places. One trouble appears to be that the men now in power do not accept criticism or suggestion in the right light. They view it not as helpful and directing, but as "roasting" or "knocking," to employ two inelegant but expressive terms. They also appear to exist in some dread of violating the League's contract with the publication that is accepted as its official organ, and a sorry organ it is, too. Not a few of their predecessors were similarly afflicted. It would seem as if on the so-called official organ depended the life of the organization. How or why such should be the case we cannot conceive, but the fact remains.

Until there is practically a complete turnover of its officialdom we fear there is small hope for the L. A. W.. The right men will have small trouble in finding the right measures to revive interest and again upbuild the disfigured and partly dismantled structure.

The Advantages of Being Small.

Because a man is in business in a small way it often is that his success comes from that very condition. To many who have studied the workings of large enterprises the idea presents itself that they do now, or soon will, feel the effects of over-organization.

The little man not only knows all his customers personally, but carries in his mind their peculiarities which slight catering to keeps them fast friends. His transactions are not so numerous or so involved as to prevent his personally giving attention to at least any complaints, legitimate or visionary. And this is a large factor in business dealing, particularly where the goods sold are not of the merest cut and dried order.

This condition is constantly brought home to largely organized business concerns. Let a customer once visit the "main office" and become acquainted with some one person there, and the organization is constantly disturbed by letters on business matters which come addressed to individuals instead of to the company. Requests that this be discontinued, no matter how carefully worded, frequently lead to disproportionate results. They are either ignored, complied with

grudgingly, or, worse than all, they cause the loss of a customer.

Because of this the small man retains his customers, as they are apt to believe they meet with greater satisfaction than when they place an order with a big concern where everything is dealt with as a matter of routine in accordance with intricate rules and regulations, which, in too many instances, are hopelessly bound by masses of red tape.

Recognizing these principles, one of the largest so-called "monopolies" in the world eliminates the main office entirely from the factor of selling; yet it has one of the most magnificent "organizations" that has ever been systematized. This systematic working, however, never comes before its customers. It is used to reduce cost of production, and to augment the selling means employed.

The product of the concern is one of universal and daily use, and because of this it can establish local selling departments even in places of fairly small population. In large competitive points they are frequently run under separate names. This means that the personal factor is recognized and is used to the fullest extent. The local manager is such, so far as the customers ever learn, in the fullest meaning of the term. The main office never comes between him and his customers, because the head of it all has learned the value of personality by surrounding himself with able and high priced lieutenants.

Another case that we know of was where at first the writing of letters by customers to individuals in the office was received with disfavor, and an attempt made to stop it. Finding that results were going against them the managers accepted human nature as it is and made a rule that all letters should be treated in the spirit in which they were sent.

On the other hand, the lengths to which "system" can be carried is illustrated in the following case in point, the truth of which is vouched for by the relator.

With his partner he carried on a business in several lines of manufactured goods, in a town of about 20,000 inhabitants, and also sold goods in a considerable surrounding territory. A small part of a machine was wanted in a hurry, and a reply-paid telegram was sent to the factory at about 11 o'clock one morning to inquire whether or not it could be mailed the same evening.

The part was in stock, but the reply tele-

gram saying so was not dispatched from the factory until closing time the same evening, a whole day being thus wasted in the simple task of replying to a telegram, thanks to the highly organized office routine. But this was not all, for although the reply telegram stated that the part was being sent off that day, it did not arrive until two days later, and the postmark upon the label showed that it was not posted until more than twenty-four hours after the telegram had been sent off.

No doubt the explanation would be that the clerk who opened the telegram registered its receipt in a book and sent it to the stock department for inquiry. The stock department registered it in their book and dealt with the inquiry in its turn. Finding that the part was in stock, a reply in the affirmative was written out by the department, registered in its book, and handed to a messenger to carry to the clerical department, where it waited some hours until its turn came for some clerk to write out a telegram in reply, register the telegram, and after a waste of seven hours have the message taken to the post office.

Then the stock department, taking the entries of goods required in their turn, eventually came to the entry of this part required to be posted. The part was selected and labelled, entered in a book, and sent in to an office to be invoiced. In the office the debit was entered in a book, and the part was handed over to some one to pack up, label, register and dispatch, the second day being spent in these operations.

Had it been a small maker who had received the wire he would have replied, got the part, and posted it, within ten minutes of receiving the inquiry. He would have saved the dealers many explanations to their customer and in turn strengthened the sale of his completed goods in that section. A man may be successfully made to wait for a complete machine for some time under the plea of rush of orders, but when a part is wanted, it is most thoroughly wanted.

When the "Sucker" Wails.

When a buyer of bicycles purchases mail order machines or those put out by that class of makers, who are always unloading an overproduction, they point with pride to their perspicacity and gloat over the short lived belief that they have saved "steep" dollars in the transaction. If they would hug the bicycle as hard as they do themselves with glee, their disappointment would come earlier—along with possible wisdom—

as a good, decent hug would put the bargain bicycle out of commission, instantaneously.

So long as there are bargain hunters there will be bargain sellers, for not only is it in the latter's books that "a sucker is born every minute and soon arrives at years of indiscretion," but they also have a golden rule which says that it is not those who know bicycles whom we want, but those who do not know, they are our meat—also our diamonds.

But when these buyers of cheap bicycles have an awakening—then, oh, then! Their plight is ridiculous—it would be an insult to common sense to say pitiable—and nothing better illustrates it than the following letter sent by a bitten buyer to a well known maker of only the best:

"Kind sirs: Can you manufacture cups and cones that will fit any wheel, or by having a sample of the kinds to be made, could grind and temper them so they would give satisfaction?"

"My wheel was made by the — Mfg. Company, and the firm is now in the hands of a receiver, and I have waited for over three months on them to ship me some goods and to make me a new set of cups and cones for my wheel, and they do not give me any satisfaction at all.

"Please advise me as to your views."

Advise of your views! Plenty of eloquence; of wisdom too little.

Motor bicycles are occasionally found fitted with tires not made for the purpose intended, presenting after a few runs a most decrepit and worn appearance. If anything conduces to the comfort of the motorist it is a sound pair of tires. They must be constructed in such a way as to undergo the extensive road friction, and to be entirely satisfactory should fulfil at least three desirable qualities—durability, ease of repair and be manufactured of the finest materials, in addition to bearing the stamp of a reliable manufacturer.

People are often heard to express surprise that tandems have not fulfilled all the prophecies made for them in the way of popularity. The tandem is an excellent type, especially for a man and woman, but where it has been handicapped is in the matter of gearing, many people gearing beyond their powers. In order to get the best results from a "mixed" tandem, it may be safely taken as a general rule that a comparatively low gear should be adopted.

ALL RECORDS BROKEN
 FROM 1 TO 43 MILES BY
ALBERT CHAMPION
 ON AN
ORIENT RACER
 PAVED BY AN
Orient Motor Tandem.

43½ MILES, 293⅓ YARDS IN ONE HOUR.

Orients cost more than other wheels, but they are built for speed and durability, and it pays in the end to buy the best. Agents offer other machines because they can make a larger profit. Do not let them make it out of you.

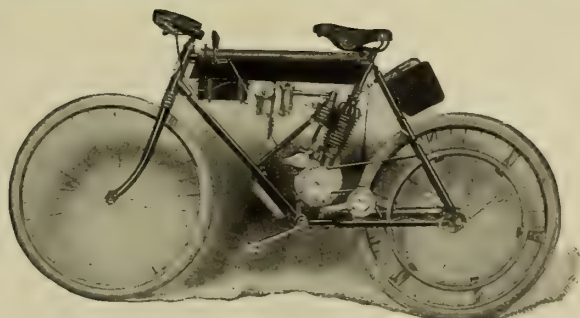
WRITE FOR CATALOGUE OF BICYCLES AND MOTOR MACHINES.

WALTHAM MFG. COMPANY, = = Waltham, Mass.

IMMEDIATE DELIVERY!

We can make Immediate
 Delivery of

MARSH MOTOR CYCLES



We have the largest factory in the United States devoted exclusively to the manufacture of motor cycles, and have a proposition for agents that is to say the least, interesting. If you are out to make money, write us at once and we will let you know how.

MOTOR CYCLE MFG. CO., BROCKTON, MASS.

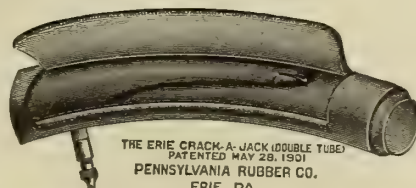
Jobbers, Be Wise!



Handle these
 Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
 our
 1902
 Price
 List.



THE ERIE CRACK-A-JACK (DOUBLE TUBE)
 PATENTED MAY 28, 1901
 PENNSYLVANIA RUBBER CO.
 ERIE, PA.

Don't close
 until you
 consider
 our entire
 line.

**PENNSYLVANIA
 Rubber Company,**
ERIE, PA.

BRANCHES:

**NEW YORK CHICAGO BOSTON
 BUFFALO PHILADELPHIA**



LEAGUE MEET LUKEWARM

(Continued from page 454.)

to me. We did. That man is Colonel Albert A. Pope, of Boston, who told me that within one week he would be in charge of the American Bicycle Company, and assured me that one of his first acts would be to help and support the national body of the League of American Wheelmen."

Among others who attended the dinner were W. A. Howell, president of the League; J. C. W. Parsons, of Atlantic City, who did all the local work for the meet; Milo M. Belding, jr., C. J. Obermayer, William S. Judson, Arthur H. Battey, William L. Dickinson, of New York; George M. Schell, Chas. Van Horn; George Brush, Bellefonte, Pa.; Charles E. Minnemayer, Alleghany; Charles R. Thompson, Bristol; C. P. Buchanan, Pittsburgh; Thomas D. Haines, Marriott C. Morris, Thomas Hare, Conrad J. Klufker, J. Rhea Craig, jr., Edward W. Bair, C. D. Sanger and Charles T. Harvey, of Philadelphia; M. C. Ayres, Tottenville, Staten Island; W. H. Hale, Edward P. Cricher, T. A. Raisbeck, A. J. Hauck, Dr. E. V. Brendon, L. C. Borden and J. A. Smith, of New York; Luther H. Keil and Calvin K. Reiman, Fort Wayne, Ind.; L. L. Buchanan, Chicago; W. H. Huff, Beverly, N. J.; Joseph McDermott, Freehold, N. J.; George V. Evesson, Jersey City, N. J.; William Frisbie, New-Haven; F. A. Elwell, Portland, Me., and John M. Zook, Lititz, Pa.

The 25-mile handicap road race on the 19th was a fairly successful affair. It was won by H. Eddiman, Camden, N. J. (3:30) in 1:15:17 3-5. The time prize fell to D. J. Cullin, of Philadelphia; time, 1:13:22 1-5. He had a handicap of 60 seconds and finished fourth.

Sand for Side Slip.

There is something very funny in this cure for, or at least alleviation of, side slip, given in an English paper:

"It may not have occurred to your readers, nor perchance to riders, but, as an interested observer of side slips so frequently seen on wood and asphalt, I have an idea to offer which some enterprising firm might advance. On the inside of the handlebar, or over the centre of the fork outside just under the lamp, there is sufficient space to fix a tin case holding sand, with a tube and spring attachment, directing it on the front wheel when approaching wet or slimy surfaces, which might lessen the risk of being thrown, and add no disadvantage to the comfort of the rider. Its simplicity I consider is worthy of a trial; at the same time, I doubt not that it may be improved upon; that I leave to more intelligent brains than mine, at the same time making the suggestion for what it is worth as a preventive, if not an absolute cure, for the evil of side slips."

Fancy being able to foresee when one is going to slip and being able to deposit a little sand there before the slip actually occurs!

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ●●●

MEN NOT METAL IN FAULT

Mistakes Made in Deciding Quality of Steel
—Hardness not the True Test.

It has frequently happened that a sample of steel has been condemned as being of inferior quality, while in many, if not in most, cases the fault lies not in the steel itself, but in the persons who have selected or used it, says a foreign authority. The causes of these failures are, of course, various—sometimes the proportion of carbon is not suitable for the particular purpose; sometimes the steel is overheated in forging; but most frequently the fault lies in the hardening or tempering of the steel, and this is in many cases a very delicate operation.

In order for an operator to be able to determine whether the hardening processes have been conducted in a manner suitable to the proportion of carbon which is present in a given sample of steel, it is necessary for him to be familiar with the characteristic appearance of the fracture of such a specimen when it has been properly treated. In working with steel of good quality an operator who is thus familiar with the appearance of the different fractures can to a great extent guard against the use of too high a temperature, or of other injurious treatment during the hardening process. Unfortunately, however, it is impossible to describe these various appearances in such a manner as would be readily understood or practically useful. Usually the knowledge comes to be almost an instinct after long experience.

A simple experiment will, however, show the enormous alteration produced in a high carbon steel by different methods of hardening. If a forged or rolled bar of such steel be taken and nicked, either when cold or at a cherry red, at about nine or ten places, and about half an inch apart, a suitable specimen is obtained for the simple experiment proposed. Place one end of the bar in a good fire, so that the first nicked piece is heated to whiteness, while the rest of the bar, being out of the fire, is heated up less and less as the other end is approached. As soon as the first piece is at a good white heat—which, of course, burns a high carbon steel—and the temperature of the rest of the bar gradually passes down to a very dull red, the metal should be taken out of the fire and suddenly plunged into cold water, in which it should be left until quite cold. It should then be taken out and carefully dried. An examination with a file will, of course, show the first piece has the greatest hardness, while the last piece is the softest, the intermediate pieces gradually passing from one condition to the other. Now, in all probability, the best metal for most purposes will be found in the piece about second or third from the hot end. This then is hardened to the proper degree, and its characters should be carefully studied in connection

with those of the rest of the bar. It will be found that the tenacity of the metal is less on either side of the selected piece, and gets less as we proceed further and further away from the proper point. The hardness of this piece is still very considerable, approaching that of the first piece. On now breaking off the pieces at each nick it will be seen that very considerable and characteristic changes have been produced in the appearance of the metal. The first burnt piece is very open or crystalline in fracture, the succeeding pieces becoming closer and closer in grain, until the selected piece is found to possess that perfectly even grain and velvetlike appearance which is so much prized by experienced tool steel users. The first pieces also, which have been too much hardened, will probably be cracked; those at the other end will not be hardened through. Hence, if it be desired to make the steel hard and strong, the temperature used must be high enough to harden the metal through, but not sufficient to open the grain.

In connection with the physical properties of a good steel, there are many persons who consider a steel is of good quality if it is very hard. As a matter of fact, hardness, considered alone, is a very uncertain test of quality. It is evidently a truism that the best steel to use for a particular purpose is that which is best suited for the purpose in view. There is, however, no steel, no matter how good it may be, that will answer for every purpose.

In general tool steel may be called good if it hardens readily and is not very liable to crack; its tenacity should also be high, varying, of course, according to the degree of hardness.

In hardening steel tools there should always be a good fire when the tool is introduced; the blast must then be lowered at once, especially with large tools, and only when the tool attains the proper temperature, depending upon the composition of the steel, should the blast be again employed. It is important that the forging heat should never be employed as hardening heat, but after forging the tool should be allowed to cool and then be heated up again for hardening. Tools of difficult shapes should always be annealed before the hardening process.

Busy at Hartford.

The manufacturing season for regular bicycles being practically at an end, the Columbia factory of the American Bicycle Co., at Hartford, Conn., is engaged chiefly on motor bicycles. At present 600 hands are employed, all working full time, and the usual midsummer reduction in the working force has not been made, nor will it be, judging from present indications. Motor bicycles are being shipped as fast as they can be made. It is said that the demand is for even more and that if a larger number could be made they would find ready shipment.

So far as can be foreseen there is no prospect of a diminution in activities at the factory for some time to come.

ENGLISH HILL CLIMBING

Both Motor and Motoless Bicycles Have Innings—Some Interesting Data.

Motor bicycle events are being pulled off in England with a frequency that is doing much toward advancing the interest in that type of machine. The latest of which accounts have been received is a grade climbing test, on a rise known as Westerham Hill, held on July 5.

The total distance of the climb is 1,143 yards. The start was made on a grade of 1 in 20.4 for 288 feet. From here on the gradients ran 1 in 9 for 652 feet, 1 in 8.9 for 482 feet, 1 in 10.5 for 442 feet, 1 in 7.8 for 828 feet, 1 in 26 for 338 feet, and then 1 in 57 for 399 feet to the finish, the figures being surface and not datum measures. The road surface of the entire course was in fine condition.

There were two divisions—Class I, for bicycles fitted with motors not exceeding $1\frac{3}{4}$ horsepower, 2.60 inches bore and 2.76 inches stroke, and Class II, open to bicycles fitted with motors over $1\frac{3}{4}$ horsepower and not exceeding $2\frac{3}{4}$ horsepower, or with stroke and bore not exceeding 3.11 inches and 3.11 inches, respectively. A running start or a push off was allowed, and pedalling was permitted. In Class I it was very generally resorted to on the 1 in 7.8 grade.

The results of the finishes in both classes are as follows:

CLASS I.

Weight.	H.P.	Bore.	Stroke.	Trans- mission.	Time.
120	$1\frac{3}{4}$	2.60	2.76	Gear	2:16 2-5
85	$1\frac{3}{4}$	2.52	2.84	Belt	2:22 4-5
112	$1\frac{1}{2}$	2.56	2.56	Chain	2:42 1-5
85	$1\frac{3}{4}$	2.60	2.84	Belt	2:48 2-5
112	$1\frac{3}{4}$	2.56	2.92	Belt	2:50
112	$1\frac{3}{4}$	2.56	2.92	Belt	3:11 4-5
55	$1\frac{1}{2}$	....	....	Belt	3:35 2-5

CLASS II.

Weight.	H.P.	Bore.	Stroke.	Trans- mission.	Time.
130	$2\frac{1}{4}$	2.88	2.76	Gear	2:07 3-5
150	$2\frac{3}{4}$	3.07	3.35	Belt	2:09 2-5
110	$2\frac{1}{4}$	2.99	2.99	Belt	2:10 1-5
140	$2\frac{3}{4}$	2.92	3.07	Chain	3:00 4-5

In addition to the above, there were three belt and two chain machines started in Class I and one belt driven in Class II, all of which failed.

On the same date and hill the Catford Cycling Club also held a motorless bicycle hill climbing contest, this being the sixteenth annual climb under the club's management. The conditions under which the climb is made is that the ratio between gear and ner's ratio. The average of the nineteen machines which competed was 10.4 to 1.

The machines of the finishers show that the nearest ratio was 0 gear and 7 inch crank, while the widest ratio was 71 gear and $6\frac{1}{2}$ inch crank. The first was the winner's ratio. The average was 10.4 to 1.

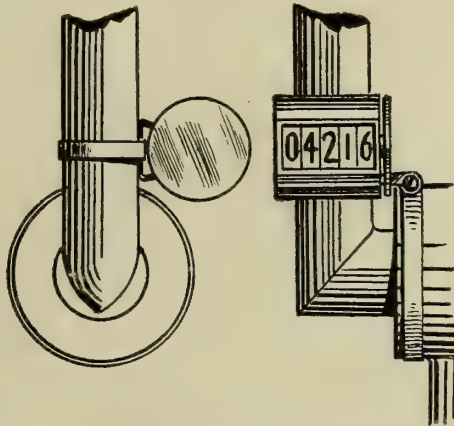
For Perspiring Hands.

According to a French cyclist, the annoyance arising from too freely perspiring hands when riding, may be obviated by a very simple method. He advises that after washing the hands quite clean and rinsing them in cold water, to get rid of all traces of soap they should be rubbed with a piece of alum, as though the rider were again soaping them. This should be repeated once or twice in the course of a long day's ride, and this will largely prevent the discomfort referred to.

To Find Distance Coasted.

Anent the coast and pedal contest to be held by the Metropole Cycling Club, of this city, the following suggestion has been made and will be fully understood by referring to the accompanying illustration.

The cyclometer is fastened to the crank just forward of its axle boss. The striker is



secured to the crank bracket barrel, each, of course, being properly positioned in relation to one another, as they would be at the front fork for general use.

The cyclometer registers only when pedaling, and is applicable to all gears, as a reading has to be taken before starting and after completion of the journey. The difference between these readings is then multiplied by the number of teeth on the crank sprocket and this result divided by the number of teeth on the hub sprocket. The answer will be the number of miles travelled with the feet at rest. Subtract this amount from the mileage of the trip recorded by the front wheel cyclometer, and the difference is the amount coasted.

Fate Again Foils Hansen.

For the second time Fate set itself against A. A. Hansen and the 1,000-mile motor bicycle record which he had in view. On the first occasion Fate took the form of a dog, on the last it made itself felt in the form of a tremendous downpour. The Minneapolis man, as stated in the last issue of the *Bicycling World*, had completed 200 miles at midnight on Wednesday—the first hundred in record time, 4:14—when the storm broke. He donned oilskins and pressed on, but soon after the lightning play and rainfall became so terrific that riding became dangerous, and when he found that the road was being washed away, Hansen wisely quit.

VALUES OF CYCLOMETERS

Their Use on Motor Bicycles Will Save Many Worries and add Many Comforts.

That the pleasure of yesterday is the necessity of to-morrow, will have no better illustration than in the equipment of motor bicycles with cyclometers. With those who wish to get the full measure of riding motorless bicycles the cyclometer is an adjunct of no uncertain quantity; but with the rider of a motor bicycle it becomes so great an aid that it will not be dispensed with once it is applied and its value tried.

As a telltale for the gasoline, the lubrication and the battery, it has a positive mission which it fulfils most effectively. The motocyclist soon learns the mileage his gasoline tank will give him under various conditions, and when taking the longer rides that the motor bicycle induces, he is saved the annoyances and uncertainties of either guessing or of getting off and measuring with a stick, or some other handy article, how much is left.

Not only can positive knowledge be had of when to replenish gasoline, but the danger of using a stick will be avoided. We say danger, because the stick is more than likely to be anything but absolutely free from some particles, and we remember a ride of 100 miles the last forty of which was made in spasms of running and stopping. Of course, the machine was blamed, but an inspection of the carburetter showed small particles of bark which had come from a roadside twig picked up to measure the amount of gasoline in the tank.

For lubrication the cyclometer is no less valuable. Every purchaser of a motor bicycle is, or should be, fully instructed in the importance of lubrication, a rule for which is easiest based on mileage. It is true that many get along seemingly well with a guessing plan of lubricating about every so many miles, but if two machines were run a thousand miles each, and one lubricated on the guessing plan and the other from cyclometer mileage, an examination at the end would show a difference in the condition of the motors if previously the guessed at motor had not shown a mysterious tendency to not do its work as well as the other.

With batteries not so hard and fast a rule can be followed, although under normal conditions the cyclometer will serve sooner or later as an aid to not being caught short of "juice." If it had no value from the battery standpoint, however, from those of gasoline and lubrication, it would return its cost many fold in saving wear on the motor and preventing troubles of several kinds from the necessity of now and then measuring gasoline.

One of the latest things which is receiving the praise and attention of English cyclists is the fabric sided tire. From all accounts, it not only gives an easier riding machine, but also gives good service from the standpoint of wear.

HOW IT WORKS

An Expanding and Contracting Sprocket Gives the Paradox Gear Seven Changes.

Among the many variable speed hubs which were described in the lecture of Mr. Sturmev, referred to in a recent issue of the *Bicycling World*, perhaps the most interesting of all was the Paradox gear. Not only is it interesting from the fact that it gives seven distinct gear variations—although the difference between the respective steps is not great—but also because of the unique and certainly bold method of obtaining the variations adopted.

It is a bracket gear, and consists, broadly, of a flexible chain ring, suitably held, and capable of being expanded and contracted, thus increasing or decreasing the diameter

joining its extremities and passing behind the star wheel.

This straight bar, called the locking plate, has a notch, which can just be seen in Figure 2, which fits down upon the top tooth of the pinion. Raise the locking plate, and the star wheel and pinion are free to revolve. Depress it, and they are rigidly fastened.

In a small aluminum box attached to the bottom bracket of the bicycle are two sliding bolts, worked each by a Bowden wire from the handle bar. One of these, if protruded, would strike the upper tooth of the star wheel, the other would strike the lower tooth. Each, however, moves the star, and consequently the rack, through exactly the same number degrees of arc. Each of these two bolts has a small stud alongside of it, which just raises the locking plate for the moment the star wheel moves one tooth, and then shuts it down again, locking the gear

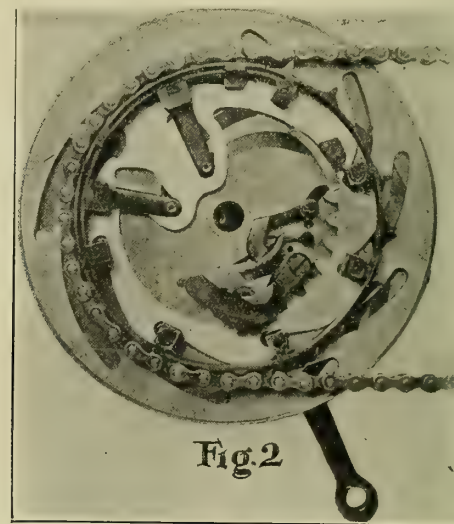
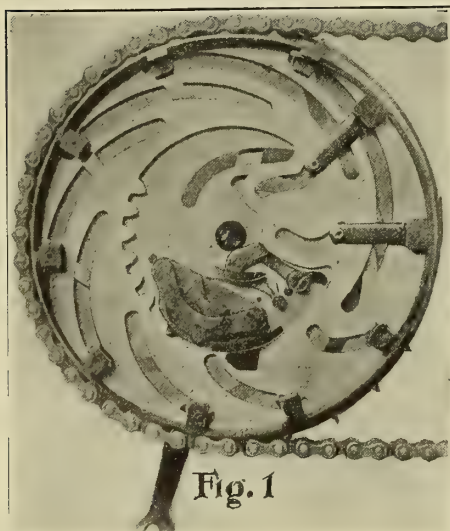
depended upon for moving the parts into their places. For the sake of lightness the blank parts of the slotted disks are cut out, as shown in Figure 3.

Chains That Require Improvement.

Two or three years ago when anything went wrong with a pacing machine it was charged, quite as a matter of course, to the motor. Nine times out of ten—sometimes ten out of nine, some people will declare—this was found to be a true indictment.

Sometimes the cause of derangement was simple and easily discovered as well as made right. Oftener, however, it was a more serious matter. The mixture was most commonly blamed, not always with justice, and if it was not at fault there were a dozen other places where trouble might reasonably be expected to develop. In the course of time it was found and put to rights.

Nowadays, however, it is not the motor



of the chain wheel, and so altering the gear. This is done in a series of positive steps, each equal to an increase or decrease equivalent to one tooth in the series. The range of variation of this gear is limited by the gap allowable between the extremities of the chain ring, which is about 35 per cent. A jockey pulley takes up the slack of the chain.

Its construction will be seen in Figures 1 and 2, these being photographs of the wheel expanded and contracted, with a .300 half-inch roller chain hung over each. It will be interesting to note the fit of the chain in both cases, also the curvature of the bridge or gap piece, which at the lowest gear fits completely under the chain ring, expanding proportionately faster than the latter, step by step, so that the first tooth, following the "toothless space," always pitches right.

Looking at Figure 1, a star wheel will be seen, at the back of which, and firmly connected with it, is a pinion gearing into a circular rack, and revolving on a strong pivot or stud. The star wheel is partially hidden by a curved plate pivoted to a stud at its right hand end, and there is a straight bar

firmly until it is moved again, which may be at the next revolution or not for an hour, at the will of the rider.

The projecting lugs or "cams" seen on the locking plate as the stud passes between them effect this raising and lowering quite simply and effectually. But what happens if one or other of the bolts is left in too long? Looking at the "expanded" illustration (Figure 1), it will be seen that a small inclined plane has just reached the star wheel, which has the effect of sliding the bolt harmlessly over the latter. On the same plate the position of a similar inclined plane on a little hammer shaped lever should be noticed.

Turning now to the "contracted" view, it will be seen that the last tooth of the rack has caught this hammer shaped lever by the tail and forced it downward, so that its inclined plane now prevents the bolt from moving the star wheel.

There is only one spring, and this serves both to return the hammer shaped lever, when the rack has moved out of the way, and to keep the locking plate down once it is in position. In neither case is the spring

that is the culprit. It has passed the novice stage, and with ordinary care and attention will be found to respond whenever called upon.

It is the chain which is now the bete noir of pace followers, promoters and, be it said with certainty, of audiences as well.

As the strength of a chain is that of its weakest link, so the efficiency of a motor pacing machine is absolutely dependent upon the reliability of its chain. If it goes the efficiency of the motor, the readiness of pacers and paced, counts for naught; there is nothing to do but to make good the bad and to begin all over again.

All who pay the slightest attention to the racing game know that the chain is the blot on an otherwise pretty fair 'scutcheon.

To get around the difficulty belts—an admittedly backward step, from the viewpoint of the pacing men—have been thought of and tried. Unless there is a cessation of chain breakages there will be further trials and a gradual change.

Strengthen the chain, a thing that can be readily done, and the trick will be turned and the pacing machine will become almost as reliable as the ordinary bicycle.

SPEEDS AND CRANKS

**Variable Gears Need but Understanding—
Crank Has Relation to Sprocket.**

Of late years there have been signs that two-speed devices are finding a certain amount of favor with the cycling public, and there is little doubt that they would be even more successful if riders would really take the trouble to use them in the manner intended. The motor cycle, if fitted with a gearing of this class, or the ordinary motor car with a petrol engine, the power of which is strictly limited and is only maintained at a certain number of revolutions per minute, form excellent examples of the real use and object of a two-speed gearing. When an ascent becomes so steep that the engine can no longer maintain the speed of the car, the driver has to throw in the low gearing and then the motor is easily able to propel the car, but the vehicle travels at a proportionately slower pace. So it should be with the cyclist who employs a two-speed gear, and if he rides in this manner and never attempts to force the pace uphill when the lower gear is in use by increasing the rate of pedalling he may possibly derive considerable benefit. But very few riders use a gear of this class in the proper way, hence the fact that such devices are comparatively seldom seen upon the road.

Closely connected with the gear question is that of the length of cranks used, because it follows that if long cranks be employed, it is necessary, in order to obtain the same results, so far as speed is concerned, to increase the gear proportionately. Assuming, for example, that a machine be geared to 70 in. with 7 in. cranks, the leverage is obviously 1 in 10, and, indeed, this really conveys more meaning than the mere expression of the gearing as 70 in., which leaves out all mention of the length of the cranks employed. Supposing that the cranks be lengthened to 9 in., it follows that the leverage has been greatly increased, and in order to attain the same conditions as before the gear should be raised to 90 in. The movement of the legs will be much greater and the cranks cannot be revolved so fast in consequence, and it is therefore perfectly obvious that the power only remains the same. It is rarely, however, that long cranks find favor, on account of the increased angular movement of the knees, and as they possess no advantage in the matter of power, it is hardly a cause for wonder that the average cyclist will have nothing to do with them. Indeed, there are many riders who tried long cranks, who have discarded them as useless, and experience has taught me that they certainly do not suit me personally, says an English writer on the subject. The long-crank idea—which is very nearly as old as the practical safety bicycle, for it was urged as one of the advantages of the

latter machine that the rider could use longer cranks with the same gearing represented by the size of the wheel of his high bicycle, on which latter type of machine it was customary to employ very short cranks in order to reach the wheel—has, however, done some good, because it has caused manufacturers to offer cranks of different lengths to the public, so that each individual purchaser can now select for himself the length which suits him best. The standard length has, moreover, been increased, and instead of the 6½ in. cranks which were practically the only length available three or four years ago, 7 in. seems to be the average crank-throw of to-day, so far as gentlemen's machines are concerned. Even ladies' safeties are generally fitted with 6½ in. cranks, although in this case I think that 6 in., or at most 6¼ in., are quite long enough, always assuming that the gearing be in proportion. Certainly from the score of appearance the shorter crank is the better, while there is nothing lost by employing it with a gearing moderately lowered accordingly, and there will be little loss in speed, probably none at all, at the end of a day's ride, especially if over fairly give-and-take roads.

Long cranks and high gears certainly do not appeal to the majority of riders, but if the former have done good in giving us the choice of cranks of various lengths, they have also done a certain amount of harm in encouraging the pernicious doctrine of high gearing, which has done so much to make long distance cycling a labor instead of a pleasure to the moderately strong, and a positive impossibility to those who are not powerfully built and in fairly constant training. The great secret of long-distance cycling for pleasure is to gear moderately and to use cranks of normal length, and, should a two-speed gear be employed, to use it rationally, thereby gaining power, if at the loss of a certain amount of speed. Under such conditions a two-speed gear is an advantage to a great many riders, although perhaps the majority will still find that a medium single gear is the best for all round cycling, and will give the most satisfactory results in the end. At any rate, such is my individual experience.

The Retail Record.

Columbia, S. C.—F. L. Zemp; fire; loss unknown.

Atlanta, N. Y.—Parshall & Chapman formed partnership.

Edenville, N. Y.—Marsh & Sargent succeed C. L. Mattison.

Turner's Falls, Mass.—Martin Neipp succeeds W. L. Severance.

Return of an old Friend.

Just what to do with the customer who is never happy unless tinkering with his machine is a problem again confronting the bicycle dealer. Now that this class has been carefully worked down to the minimum, the motor bicycle has come along to once more revive the spirit and tendency.

PRICES TEND UPWARD

Enormous Demand for Manufactures is the Cause—Inflation Deplored.

Just at present there is a general tendency to higher prices. It is known that all wise manufacturers have anticipated their requirements for a long time to come. By way of illustration, it may be mentioned that some railroad companies have bought steel rails for delivery in 1903. Trade journals have called attention to the fact that within the past month Western implement manufacturers have placed contracts for over 100,000 tons of steel. The significance of it is that higher prices are anticipated, but manufacturers of implements and vehicles are assured of a very heavy trade for the coming season, and feel that it is necessary to have the material with which to fill all orders, says the Carriage Monthly.

Regarding the steel industry in its entirety, it may be said that, while the present tendency is toward a higher range of values, it is hardly probable that higher prices will be established. The great leaders of the steel industry are opposed to any advance, and have done, and are still doing, their best to prevent such an advance as would unsettle the industry, and, in fact, to prevent any advance at all.

In this they are wise. What we need is assurance of permanency. The unsettling of values through advances of steel or iron would do very much to hold back orders. The manufacturers feel this, and know it from experience. In the meantime it should be mentioned that the facilities for the increased output of steel are being established as fast as material and labor and money can establish them. There never was such an expansion in any industry as there is at present in the steel-making industry. Furnaces of immense capacity are being built. New ore lands are being bored; ore-carrying vessels of immense capacity are being built. Railroads are being built to make short cuts from mines to places of shipment; mills are being erected embodying the highest economies, and the foundation is being made for the production of steel at a lower cost than it has ever yet been produced. This lower cost will not be enjoyed until the present phenomenal activity is over, and until the additional capacity is brought into line. That may be some time next year.

Even then prices will not decline if the present phenomenal demand is maintained. What the demand for next year may be is only guesswork to say. The world seems to have entered upon an era of extraordinary activity and extraordinary consumptive capacity. How long it will last is mere guesswork. It may probably last for years.

For the time being, therefore, we may expect no depreciation in values, no weakening in quotations and no material change in price lists.

DOES NATURE TEACH!

Man's Brain has Brought About More Than Nature's Alleged Examples.

Among mechanics a great deal is heard about learning things from nature and many mechanics are fond of tracing analogies between nature's structures or ways and the things done by men. An original view of this matter is taken by an editorial writer in *The Journal*, of New York. Speaking of Professor Langley's experiments in mechanical, he says:

On two high towers Professor Langley places his cameras. As the birds pass they are photographed from two positions at once; the direction and force of the wind are recorded at the same time.

Buzzards and other high soaring birds are studied especially, and Professor Langley thinks the photographs will help him to solve the problem of human flight.

Any kind of concentrated observation is useful. Probably Professor Langley will be led to useful thinking and experimenting by his watching of birds. But he will not learn from birds the secret of human flight. That secret, like all other great secrets affecting humanity, will be found in the human brain.

Nature—so much praised and forever put before us as an example—does things really in a primitive, wasteful way. Her forces work regardless of economy, and puny men, mentally developed only one-thousandth part, can already teach nature more than she can teach him.

Man could not learn the secret of swift locomotion by watching the antelope. He could not solve the problem of transcontinental freight carrying by photographing the powerful elephant or whale.

He had to use his brain. Through his own genius he learned to take a sphere, cut a slice out of it and make a wheel. Two of these wheels he attached to an axle. He had his cart—a rough concern first. He now has his ball bearing sulky, and his lightning express train. He will have swifter and more marvellous conveyances later. But they will come out of his brain—not from nature. There is no hint in nature of the railroad, nor of any great and indispensable human machine.

Nature carries birds through the air by means of exaggerated fins, acting on the atmosphere as fins of fishes act on water. She sends animals speeding through the forest on four levers, which strike the ground and propel the beasts in various awkward ways. But a little girl on a bicycle could run any deer to death in a forenoon, and in the future that same girl will be able to outfly the condor and make the albatross feel like an aerial stage coach of days gone by.

The one powerful thing in this world is an idea. One simple idea made the sewing machine—it could not have been inspired by

the "darning needle" flying over the pond, nor by the Baltimore oriole weaving its nest. One idea will solve the problem of human flight, and all our other problems will be solved similarly, by the one necessary idea.

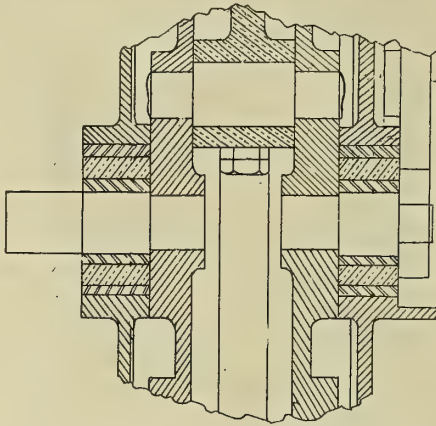
The Honorable Mr. Archimedes was thinking in his bathtub—and the one idea that came to him solved a great world problem. He would have wasted his time had he taken a fish with him into the bathtub and studied that fish.

The great problem of social organization will be solved by the force of one idea.

Here's the Ball-Bearing Motor.

One of the problems in motor construction, immediately it is broached among those who claim experience, and which never fails to start a forcible discussion, is that of ball bearings. The subject is one which is not going to be downed by the theorists, and, in fact, has found a direct advocate in G. H. Curtiss, of Hammondsport, N. Y., who is putting out a 2½ horsepower air cooled motor having balls at both crank shaft bearings.

The section illustration, shown herewith,



gives the general arrangement. On each shaft is secured a hardened and ground tool steel bushing, and surrounding this is a brass ball retainer, with thirty-six quarter-inch balls, which in turn is surrounded by a second bushing, finished like the first, and secured in the aluminum crank case boss.

The balls are placed side by side, without provision for adjustment any more than ordinary bearings have. Of course, new bushing can be put in, but the maker claims that from experience and under excessive use there is no need for adjustment. The further claims are made that as yet there have been no loose bearings, broken balls, hot bearings nor wear from motors which have been run over a thousand miles.

Defense Against Dogs!

A dog shield has been put on the market by an English accessory manufacturer. It is a small and light shield which goes in front of the steering wheel, like a miniature cow-catcher. The inventor claims that if a dog rushes against the wheel it will be met by this shield, and forcibly cast aside, clear of the machine. To most cyclists such a fixture would appear highly ludicrous.

WHAT WAS TAUGHT

Paris-Vienna Race Showed Advantages of Motor Bicycles Over Rough Roads.

Compared with the pace of the big racing cars, the performance of the motorcycles in the Paris-Vienna race, of course, do not appear very startling; but, considering the comparatively small power of the machines, the work of the winners was very meritorious.

The cycles were wisely started after the large cars, so that they had a comparatively clear road without fear of being overtaken and then having to slow in consequence of the blinding dust raised by the large cars. The first stage, to Belfort—namely, 253 miles—offered perhaps the best test of speed, and the first arrival was Bardeau on an 8 horsepower De Dion tricycle, who was closely followed by Osmont on a similar machine.

The motor bicycles did not seem capable of holding their own to the extent which might have been expected, but it was noticed that their riders looked far less tired and jaded than those who raced on the three wheelers. The first motor bicycle to arrive was a sample of the new Werner, which was ridden by Bucquet, who accomplished the distance at an average speed of about thirty-one miles an hour.

As a rule the pace of the motor bicycles was pretty regular, and there was not a great difference in the actual speeds attained, although the bad roads after passing Belfort showed up the weak places of a few of the machines.

The bad roads slowed the tricycles considerably, while it did not make such a marked difference to the rate of progression of the bicycles. Thus it happened that during the last stage of the race Bucquet was only two minutes longer over the journey than Osmont.

This fact is significant as pointing to one of the great advantages of the motor bicycle in districts where the roads are rough—namely, the possibility of getting along at a good speed on a smooth and narrow track, which can often be found even on a road which may be described as generally bad.

Wiring That Causes Trouble.

It is rather curious to note how many motor bicycles have the wires from the battery to the commutator so arranged that they are liable to come in contact with the hot pipe to the muffler. Many cases of short circuiting are due to this, for the insulation becomes burned through, either wholly or partially.

When the damage is only partial the effect is to occasion numbers of misfires, which may be attributed to defective adjustment of the trembler, to faulty contacts, to the sparking plug, or, in fact, to anything but the real cause.

It is therefore as well for the motocyclist to make certain that the wires are well clear of the exhaust pipe or other hot parts of the motor.

GEARS AND GEARING

A Writer Gets Discursive on What They are—Variable Speed Also Outlined.

This year there are indications of a reviving interest in two-speed gears, and, as a consequence, it follows that considerable attention is being drawn to the question of gearing in general, writes C. W. Brown in the C. T. C. Gazette. One or two members have recently written to the Gazette asking for a plain explanation of the advantages and disadvantages of high or low gears, and I presume that in the main these inquiries relate to gears of the single type. About three years since there was a distinct craze for very high gearing, and it was quite common to find machines geared to 80 in., and yet provided with cranks of only normal proportions, in which connection I will remark that in dealing with this question I shall first of all consider only machines fitted with cranks of average length, namely, about 7 in.

The origin of the gearing of a cycle being merely expressed in inches, dates from the "ordinary," or high bicycle, now practically extinct, and it is one of the unsatisfactory things which has been handed down to us from the early days of bicycling. It was usual to describe the high machine as a 50 in., 54 in., 60 in., or whatever the size might be, the figures having reference to the diameter of the driving wheel measured over the tire. When the safety bicycle was introduced, it was necessary to so arrange the gearing between the crank-axle and the driving wheel that the latter might revolve twice or even more for each revolution of the cranks, and in order to bring this clearly to the mind of the rider of the high bicycle, it was customary to describe a safety having, for example, a 30 in. driving wheel which was arranged so that it made two complete revolutions to every one of the crank-axle, as being geared to 60 in., that is to say, twice 30 in., and, therefore, equal to the high bicycle having a wheel of 60 in. in diameter, to the actual axle of which the cranks were secured. In other words, the wheel of an ordinary 60 in. bicycle covers 15 ft. 8½ in. of ground at every revolution, and the modern safety travels a like distance for every turn of the crank-axle if the machine be geared to 60 in. A high bicycle with a 56 in. wheel will only advance 14 ft. 8 in—approximately—and if a safety, or tricycle, be geared to what is called 56 in., the machine will also cover this amount of ground at every revolution of the cranks.

Of course it follows that the greater the distance covered at each revolution of the cranks, the greater will be the force which is necessary to turn them, and vice versa, for it takes a certain amount of power to propel the machine over a given space of ground in a stated time, and this power may be applied all at once and slowly, or in sev-

eral periodical efforts each of short duration and of less force, the aggregate being the same in each case. Some riders are better suited with a slow pedalling action in which they apply the power steadily and less frequently, while others find it easier to apply their force in small quantities and often, and it follows that cyclists of this latter class employ low gears.

In addition to the ground covered at each revolution of the crank-axle, there is another most important factor in connection with gearing, and that is the height which the machine and rider are lifted when ascending hills. Taking a 56 in. gear and one of 60 in. for comparison, it will be seen that on an ascent having a gradient of 1 in 12, the rider of the machine which is geared to 60 in. will not only have to travel 12½ in. further at each revolution of the cranks, but will also have to lift the weight of the machine and himself slightly over one inch more than the rider of a cycle which is



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

geared to 56 in. would have to do, but the latter would, in order to accomplish the same work and cover the same amount of ground in the same time, have to pedal faster and so would not gain materially from the point of view of ease. If, however, he elected to proceed at a slightly slower pace, and were content to pedal only at the same rate as the rider of the 60 in. machine, he would be a gainer in labor; in fact, he would have gained power at the expense of speed.

But a good many cyclists who are active find that they can pedal fairly fast without feeling so exhausted as they would do if they used higher gearing and applied more force at each stroke, while they can maintain approximately the same speed, and it is highly probable that everyone has a gearing which suits him best if he only knew it. Two or three years ago high gears were fashionable, and were in a great measure responsible for the falling off in the average length of rides undertaken by the ordinary cyclist, who, in spite of improved machines, pneumatic tires, and other advantages which

were unknown to the earlier riders, did not, as a rule, go so far afield. The exhaustion following the pedalling of a highly geared machine at a decent pace was too great to be sustained for long, so that rides became shorter and shorter as the gearing and speed was increased, which appears paradoxical, but is, nevertheless, true. Now there is a slight indication of a return to medium gears even in conjunction with lightweight machines, so that it may come about that the wheelmen of the next few years may once more undertake long pleasure trips, just as their prototypes frequently did in the days of solid tires and low gears.

The importance of gearing was recognized in the days of the popularity of the tricycle, and several attempts were made then to combine the advantages of a high gear when travelling before the wind, or on slightly down grades, with those of a low gear for riding under adverse circumstances, as when facing a heavy wind, or ascending hills. But although many two-speed gears were brought out, they none of them proved commercially satisfactory, owing to the fact that comparatively few riders understood the theory upon which such devices depend for success. The average cyclist who used them would throw in the low gearing for hill work, but he would at the same time increase his rate of pedalling in order to maintain the speed of the machine, by doing which he lost all the advantages of ease which he would have had had he sacrificed speed for power, which is the real intention of all two-speed gears.

About Motorcycle Tours.

The motocyclist contemplating a tour, or, indeed, a run of any duration, should, preparatory to starting, examine and thoroughly test every part of his machine. A nut may have shaken loose from the constant vibration, especially if the machine be comparatively new. The more vital parts should receive attention. The battery may be low in amperage from neglect in cutting it out, or the valves may have become gummy, and should be carefully cleaned. Even the sparking plug may not be screwed home, resulting in weak compression.

Attention to little details all conduce to the rider's comfort, and it is just as well to make these discoveries right at home, when the tools are handy, not waiting until a breakdown occurs by the wayside, where much inconvenience may be caused by not having the necessary appliances.

Therefore every part of the machine that is susceptible to damage or is liable to go wrong should be examined, and if requiring attention they should be put in proper order. There is nothing so good as leisurely home treatment. Look for any gash or wounds in the tires, and repair without delay. A gape or cut is liable to go from bad to worse if not at once attended to.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

RACING

In two spirited ten-mile heats Leander defeated Fenn at Atlantic City, July 16. The first heat, which was won only by a wheel's length after a desperate finish, was won by Leander in 15:14 4-5. The second heat was won by three laps, Fenn losing about that distance by a broken chain, necessitating a change of pace. The time was 15:36 3-5. McConnell won the five-mile lap race from Hunter, Lake, W. G. King and J. King in 11:32. The mixed motor race again furnished a sensational finish. The two tandems and single ran side by side for the two miles, which were ridden in 3:09 2-5. Thompson and Boake winning. Hunter, on a single, ended third. Four thousand people witnessed the races. On the 17 Freeman rode a very close and exciting twenty-mile paced race, with Gus Lawson. Lawson led for the first mile, when Freeman passed him and held the lead until the fifth, when Lawson again forged ahead, and held the lead for two miles. Then Freeman led to the eleventh, and Lawson again had the lead. It was see-saw until near the finish, when Freeman took the lead, winning by half a lap. Time, 31:31 1-5. A five-mile handicap, with Fenn at scratch, Leander 25 yards, McConnell 50 yards, Hunter 60, Lake 75 and John King 80, was won by Fenn, who led by 20 feet in 12:00 4-5; Hunter second, McConnell third, King fourth, Leander fifth. Lake's chain broke in the first mile. A two-mile motor race between A. Zimmerman and F. Sinclair, Boake and Thompson, and Babcock and Daly was won by the former in 3:07 3-5. Again on the 21st Leander defeated McConnell in two straight heats of a ten-mile paced race, Leander won the first by half a lap in 16:17 2-5, and the second in 16:29 4-5. The two-mile professional motor race between Babcock and Daley, and Sinclair and Zimmerman, was won by the latter by one length; time, 3:09 2-5. The one-mile professional lap race was won by Hunter; Wincting second and John Lake third; time, 2:08 1-5. In the two-mile professional motor race between Thompson and Boake and Babcock and Daley, the former won by five feet in 3:13 1-5. On the 19th Kramer defeated a big field of National Circuit stars. The final of the mile brought together Kramer, Kimble, Collett and Fisher. At the start Kramer was badly pocketed, but at the half pulled out and won in a blanket finish. Bald failed to qualify in his heat. Kimble was second, Fisher third, and Collett fourth; time, 2:29 4-5. The one-mile handicap was well contested, and was finally won by Collett from the 20-yard mark, in 1:57; Jacobson (80 yards), second; Fisher (20 yards) third; Hunter (120 yards) fourth. One-mile consolation won by Leander, McConnell second, Bald third; Time, 2:08 2-5.

The races at Vailsburg July 20 were delayed on account of the late arrival of the professionals and their wheels from Atlantic City. It was nearly 5 p. m. before they ar-

rived at the track. Kramer and Collett easily qualified in the first heat of the one-mile professional team race, and the second saw a fighting finish between Fenn and John Bedell, the former winning. Bald, pulled Lester Wilson, his team mate, the last lap, but "Plugger Bill" Martin, coming fast, just nipped Bald on the tape. Three teams lined up for the final. Collett, with Kramer on his rear wheel, took the lead, and Fenn was close up. Collett never allowed himself to be headed, and on the last lap set a fast pace, sitting up at the stretch turn, allowing Kramer to go to the front. It was easy for Kramer from then on to the finish. Fenn tried to get to the leader, but the best he could do was to finish a length back of Kramer. Leander was third, Martin fourth, Beauchamp fifth and Collett sixth. Time, 2:36. The pursuit team race for amateurs was won by Glasson and Schlee rather easily in 5:47; distance, 10 laps. Billington and J. Zanes second, O'Goerke and G. C. Cameron third. In the two-mile professional handicap Kramer did not ride, and this left Fenn alone on scratch. He rode well for a mile, but could not catch the bunch. The race resulted in a close finish between Scheiber (120 yards), Krebs (120 yards), Bedell (60 yards), Newkirk (150 yards), that being the order. Time, 4 minutes. The one-mile handicap was the feature for the amateurs, but none of the stars landed in the distribution of prizes at the finish. Hurley, Billington and Gleason, scratch men in the three heats, qualified, but could not overhaul the front markers in the final. The scratch men alternated pace for three laps, but were too far back when the sprint for home began. The race was won by G. Cameron (120 yards); W. A. Penn (140 yards) second, and C. Hollister (80 yards) got third; time, 1:59 2-5. There were 6,000 spectators present.

The National Circuit races at Pittsburg July 21 were interesting. The one-third mile professional was run in five heats, and won by Kramer, with Iver Lawson a close second, Kimble third, Collett fourth; time, 40 seconds. Kramer did not ride in the half-mile handicap, which, after a very fine race of three heats, was won by Saxon Williams (65 yards), F. S. Beauchamp (50 yards) second, Iver Lawson (scratch) third; Bald, 35 yards) fourth, Collett (15 yards) fifth; time, 58 seconds. The one-mile professional lap race was postponed on account of rain.

At Baltimore, July 17, Champion lowered the ten-mile record held by himself by 45 1-5 seconds, riding the distance in 13:58 2-5. During the first heat the rear saddle on De Guichard's pacing machine broke. He struck it and got a bad spill. He remounted quickly and rode unpaced to the finish. The fall occurred in the ninth mile. Champion won by a mile and two laps. The second heat was closely contested. For the first mile there was no change in their relative positions. In the second Champion gained a quarter of a lap and held it to the fourth mile, when de Guichard made it up. In the

next two miles Champion gained a quarter of a lap, and held this until near the finish, when, by a great spurt, he finished a winner by half a lap. The time was 15:13. By miles Champion rode the record-beating heat as follows: One mile, 1:24; two, 2:47; three, 4:10; four, 5:33; five, 6:55; six, 8:17 2-5; seven, 9:44; eight, 11:09 3-5; nine, 12:33; ten, 13:58 2-5. At Manhattan Beach, July 19, in a twenty-mile paced race, Champion defeated de Guichard, Butler and Hall. Champion took the lead at the start and steadily increased his advantage. He led by 100 yards at the end of the first mile, and the further he went the greater the distance between himself and the others. At ten miles he led by two laps, and at twenty miles he was easing up, over one mile ahead of Butler, with Hall barely beating out de Guichard. The time was fast, 29:32 1-5. In the short distance races Hurley rode in splendid form. In the two-mile open Hurley seemed to have little chance, but he picked up those in front of him in clever fashion, winning at the tape by a foot in 4:41 2-5; Billington second, Glasson third and Forest fourth. The one-half mile amateur handicap was won by W. J. Vanderveer, 55 yards. Hurley made a splendid effort, but the best he could do was third. M. G. Dove, with 30 yards, was second; S. C. Kohn, 55 yards, fourth. Time, 0:51 1-5.

Kramer won the one-mile professional race for the national championship at New Haven July 17. The race was run off in four place heats, two semi-finals, and the grand final. Collett took the lead from the first two laps, then Kramer set the pace for two laps. On the fifth lap Kimball jumped to the front and made his bid for the honors. Kramer was after him like a flash, and, passing Kimble, sailed away from home. Lawson made a magnificent spurt in the last half lap, and finished so close to Kramer that the spectators called it a dead heat. The officials gave Kramer the race by two inches. Collett was a foot behind Lawson, and Kimble, whose tire exploded on the last lap, was fourth; time, 2:27. The two-mile professional handicap was won by Carni in a fine race. In the first heat of this race Collett, who started from scratch, dropped out in the second lap, the pace being too fast to catch. Lawson entered the second heat, but failed to get a place. Carni, with 160 yards, was first in 4:16, P. Kellan, 180 yards, second; Newkirk, 160 yards, third; Fisher, 60 yards, fourth; Jacobson, 70 yards, fifth. The five-mile amateur open was won by Hurley in 11:43 4-5; J. P. Linley second, W. Haggerty third, B. Perkins fourth. In the half-mile professional consolation Rutz won, Bedell second, Butler third; time, 57 seconds.

After four trial heats and two semi-finals the final heat in the one-third mile national championship race held at Providence July 16, was won by Kramer. Those who qualified for the final were Kramer, Wilson, Fisher, Collett, Kimball, Rutz, Lawson and Schrieber. Kramer's time was 39 2-5. Lawson second, Kimball third, Wilson fourth.

The one-mile professional handicap was won by J. P. Jacobson, with 25 yards start, in the final of three heats. Wilson (20 yards) second, "Tom" Butler (60 yards) third, Schreiber (65 yards) fourth; time, 2:03 3-5. The one-mile amateur open was won by W. J. Potter; E. F. Root second, E. Butterworth third. Time, 2:24. The one mile amateur handicap was won by E. F. Root, scratch, in 2:01 4-5. Fred Partridge (60 yards) second; W. J. Potter, (scratch) third. Bald rode in something like his old form in the half-mile consolation race, and beat out a field of thirteen starters. W. A. Rutz second, Bedell third, Mettling fourth. Time, 0:57 3-5. There were 7,500 persons present.

In a twice postponed twenty-five mile paced race at Boston July 18 Maya won by about eighty yards, his time being 36:03. Moran was second, Osgood third and Caldwell did not finish on account of an accident. Walthour was not able to race on account of injuries received on the night of July 17, and F. Osgood was substituted. Moran started from scratch behind a nine horsepower motor. The other riders received a handicap of five laps. Maya used a four horsepower motor. Caldwell alternated between a single and a four horse tandem, while Osgood rode behind a single. In the fifteenth mile the rear tire of Caldwell's motor exploded, and Caldwell and his pace-maker were thrown to the track and slightly injured.

At Boston July 17 in a twenty-five mile paced handicap race, in which Walthour and Monroe, with big motors, gave Maya and Caldwell, with small motors, five laps start, a most sensational fall occurred. Walthour, who was gaining at a 1:23 gait, fell immediately in front of the grandstand. The chain on his pacing machine broke and threw Walthour into the air and over the head of his near pacemaker. His wheel went over the fence, while Walthour slid and bounded over the track. No bones were broken, but he was badly cut and bruised. The race was stopped and postponed until the following evening.

It transpires that the report of Champion's having ridden 41 miles 365 yards in the hour at Pittsburg, July 15, was nearly two miles behind the record made by him on the occasion. The official report shows that Champion rode 43 miles 1,147 yards, beating the American record held by Elkes, of 41 miles 688 yards. This, however, falls far behind the world's record of 45 miles 152 yards made by Robl, May 14.

Butler lost to Monroe by three laps in a twenty-mile paced race at Springfield, July 16. From the start Butler gradually pulled away. Butler was two laps ahead at the eleventh mile, but in the twelfth his pace gave out and the single which was substituted was too slow, so that Monroe took the lead in the seventeenth mile and won in 34:25.

CAPITAL ACCUMULATION

Is not Altogether an Evil, Although Fraught With Danger in the Future.

"While there is no overproduction at present, and no signs of it, the elements of overproduction exist in the abundance of capital which we see on every side. In past decades the great trouble has been the lack of capital. In time to come the trouble may be the abundance of capital, i. e., the lack of opportunity for safe and profitable investment," says a contemporary.

"Even should there be a greater saving of capital than there is profitable employment for, this evil, if it is an evil, will work great good. This fact will be an economic factor which will solve a good many riddles. The observer may be at first inclined to say that an enormous amount of capital can do no harm. Perhaps not. One effect of that accumulation will be the reduction in the rate of interest. The reformers and the social agitators for years past have been claiming that 2 to 3 per cent was all that money should be worth, while the lenders of money have been sticklers for 6 per cent, and when opportunity offers, 8 to 10 per cent.

"High rates of interest are not conducive to economic advantage in any industry, in any business. But, on the other hand, low rates of interest demand high business tact, ability and foresight. The breaking down of the rate for interest from 6 to 5, 4 or 3 per cent means a great deal to society. It is a subject which will bear close study.

"There is another feature of this question deserving of attention, namely, the volume of money seeking investment. The spirit of saving has taken possession of the American people. The accumulations of savings banks and trust companies, in real estate and building loan associations of all kinds, all show that a vast amount of capital is being saved for the purpose of investment or for buying homes, most of it for investment. In fact, the bulk of savings find their way back into loanable channels.

"It is here where the greatest danger exists. There will ere long be a greater supply of loanable capital than for which there is a demand. The trouble is that there will be a temptation to increase producing capacity along lines where there is already enough capacity in existence. New machinery, new processes and the like cannot take up capital as fast as it is saved, therefore those who control large volumes of capital, in order to find employment for it, even at a low rate of interest, will be tempted to let it go into enterprises which are already sufficiently supplied; that is to say, that promoters will be more encouraged than ever before.

"Take any single article of common use. Let us say that it is produced in sufficient abundance to-day. Capital is seeking employment; ambitious men, salesmen perhaps,

those who, while good in their way, lack a broad view of business requirements, will be able to borrow money from willing lenders and invest it in the production of these goods and swamp the markets with supplies. The result is that prices decline, goods accumulate and an incipient panic takes place. This is a danger which we have to contemplate.

"While the fundamental maxim of political economy is well founded, that increase in producing power increases the power to demand other products, there is much delay, friction and miscalculation in the process. Until new wants are created for the community, there is too often a tendency to invest savings in the duplication of forms of machinery which are already sufficient. This results, when the new enterprises prove unprofitable, in the same loss of capital to the investor which would attend its employment for consumptive uses. Only when the increase in purchasing power brings a visible increase in the demand for certain products, and also creates new tastes and demands calling for the investment of capital in new enterprises, can the economic law come into play which adjusts the supply of capital seeking investment to the demand for it. There has been a tendency in the past quarter of a century, in spite of this economic law, for savings to exceed effective demand. This tendency has resulted in the competition of capitalists against each other for safe investments and the fall in the rate of interest, which has in some cases cut in halves the earning power of the savings of a lifetime."

Makes Inflation Easier.

A new pump attachment is thus described by an English paper:

"Attached to the frame is a pump of somewhat larger diameter and shorter stroke than an ordinary inflator. The piston rod, he proposes, should be a tube, so as to hold the indiarubber tube when not in use.

"Attached to a fulcrum on the horizontal bar of bicycle under the saddle is a lever, and from the lever to the piston rod is a connecting rod as shown.

"When not being actuated, the lever would be closed down parallel to the piston rod and held secure in a clip. To use this device the lever should be unclipped after having screwed the ends of the indiarubber tube to the nozzle at lower end of pump, cylinder, and to the tire valve, then move it up and down until the tire is full, when the one end of the tube can be released and connected to the other wheel tire valve.

"The inventor claims this to be an improvement on the ordinary hand inflator, inasmuch as it does away with the hard work pumping a tire while in a stooping position."

The angle at which the cycle saddle should be tilted differs with each individual, so that no rule of guidance can be laid down, and riders can only find by experiment the exact tilt to suit their requirements.

PLANING IN THE LATHE

Jobs Accomplished by Ingenuity in Place of Using More Ambitious Machine Tools.

Although I am no advocate of the making of the lathe into a sort of universal machine tool, yet there are emergency jobs where the lathe, if handled with skill and ingenuity, can be made to perform work other than that which it was originally intended for, says a writer on shop experiences.

It is no uncommon thing to see a lathe used for drilling, though really it should not be used for that purpose. Yet it is quite a common practice in most small shops.

Using the lathe for milling is also another very common procedure. By the use of a milling fixture I have often cut gear wheels and chain wheels in a lathe with very little trouble and with perfect success. Another use for the lathe in emergencies is that of planing. It may not be generally known among cycle mechanics that planing can be done very well in the lathe. As an instance I may mention the planing of the grooves in long screw taps. These I have successfully planed in cast steel between the centres of the lathe.

The tap to be grooved is firmly mounted between the lathe centres with the back centre screwed up hard against it and locked. A carrier as fastened on the shank of the top and over its end is slipped a piece of tube driven hard on it. This piece of tube projects down between the ways of the lathe bed and is firmly wedged there, thus locating the tap rigidly in position. A round nose tool is now clamped sideways in the tool post, and a pin is driven into a hole in the top of the cross slide to prevent its slewing around during the cutting stroke. A fast feed is put on the screw cutting gear, and the lathe is run single geared—that is, without the back gear in action.

The running centre should be lubricated as it revolves, of course, in the centre of the tap. The cutting stroke may be either a push or a draw, the latter for preference. That is, the lead screw pulling the saddle to the left. Care should be taken to see that the nut is in proper engagement, and too deep a feed must not be taken, otherwise damage to the change wheels may result.

The feed is given by the cross slide on the compound rest, the collar of the draw screw being marked to enable the operator to advance the feed each time the required amount. At the end of each cutting stroke the tool is withdrawn and the saddle traversed back by the rack and handle. The tool is then fed up again, turning the handle of the draw screw just past the chalk mark on the collar, as in screw cutting. The nut is then closed on the lead screw and the next cut taken. The lathe is kept running the whole time during this operation.

The practice just described can hardly be

called planing proper. It is really a substitute for a milling operation. Flat or surface planing can, however, be performed in the lathe, as I will presently show. I do not consider the lathe the proper tool for this job, but in the absence of a planing machine I have found that it could be turned to good account in this direction.

Some time ago in the course of constructing some jigs for repetition work it became necessary to plane accurately the base and side of some long, pillarlike supports. The base could easily have been surfaced in the lathe but for a long projection upon it which prevented it being properly chucked. Under the circumstances, I thought it would have to be a case of sending it to a neighboring machine shop to be planed in a big planer or shaper. But as this firm was working somewhat on the same lines as my own, and as it was necessary to keep the nature of our operations as quiet as possible, the idea of letting them have any of the work in their shop was not very pleasant, and I decided to try to plane the bases of the jigs on the lathe. This I accomplished as follows:

The long projection on the jig casting would easily go down between the ways of the lathe bed, so I bolted it down onto the lathe bed with the surface to be planed approximately parallel. This came up to about an inch below the lathe centres, and was about six inches square. Having got it bolted firmly to the bed, I made a planer tool as follows:

Taking an old cast iron window sash weight, I drilled through it a one-inch hole near the end. This was filed out square and a five-eighths inch set screw was threaded through the end. This bar was bolted onto the tool post with two strong bands and studs and nuts. In the square slot in its end was pinched by the set screw a sharp round nose planer tool which overhung the work to be planed.

The feed of the tool was given by light blows with a hammer at the end of one run over the work, though, generally, not more than one run over was necessary, as the castings were nearly to size. The stroke was given by the carriage pulled by the lead screw, as in the last case, and the feed across after every cut was by the cross feed. With this arrangement I have planed several awkward jig castings in the lathe.

Yet another method is to have the tool stationary, as in a planer, and traverse the work. I once had a lot of lugs to make exactly alike. They were the lugs carrying cross shafts for the rocking levers of small steam launch engines. They carried rocking shaft of the reversing gear, and were bolted onto side frames of the engine. Each one had the journal bearing bored through it, and was threaded onto a mandrel exactly fitting.

I threaded about forty of these onto two mandrels, removed the top slide of the compound rest, and bolted them onto the bottom slide. Then, mounting a long cast iron bar between the centre of the lathe, and

wedging it by means of a carrier, as described in fluting the tap, I fixed at its centre a planer tool through a slot and held up by a wedge cottar and set screw. The lead screw gave the traverse to the work, and the cross feed was given by the bottom slide of the compound rest. The castings were of phosphor bronze, and when finished came out perfectly true.

The best way is to use a big lathe—the biggest in the shop—for these emergency planing jobs. It must not be understood that I advocate the use of the lathe for such work, but I do think that in shops where planing work does not often come along a makeshift on the lathe is admissible, and I have cited these cases to show you how I have adopted the lathe for these jobs.

Abuse of "Automatic."

This word "automatic" is being shamefully misused by writers on mechanical subjects and by builders of tools and machinery, and it is time, we think, to put a stop to it, says a contemporary.

"Automatic means just one thing, and one thing only, i. e., self-acting. A lathe that has feeds that work by power has automatic feeds, but the lathe itself is not automatic unless it puts in and takes out the work, starts the cuts and ends them, and, in short, does all the things that the lathesman is hired to do. We find in the columns of an esteemed contemporary a description of a chuck for a turret machine, which chuck is described and referred to as automatic, though it is perfectly clear that the work must be put into it and taken out by hand and that the operator must also, by some means not clearly indicated, open and close the chuck. By what right is such a chuck automatic, we should like to know?

"This error of naming things automatic that were not really so has in some instances compelled the use of such abominations as 'full automatic' or 'completely automatic' in order to designate machines subsequently designed and which approached more nearly to being really automatic, and we respectfully submit that machinists, who of all others are such sticklers for exactness and precision, should exercise their love of such qualities when they are choosing descriptive words.

"This would not only be more consistent, but it would be the means of avoiding some confusion, which, if the present loose practice is continued, seems likely to end in utter chaos, so far as the application of this honest and entirely proper word to things mechanical is concerned."

When to Oil Motors.

On various occasions of late there have appeared recommendations to motor cyclists to renew the oil in their crank chambers every thirty miles. In general, this is too long a period to leave the engine without a fresh charge. It may be sufficient in many cases, but it is running it too close.

The Week's Patents.

704,493. Sealing Attachment. Charles C. Armstrong, Columbus, Ohio. Filed Mar. 5, 1901. Serial No. 49,813. (No model.)

Claim.—1. In a sealing attachment for acetylene lamps, the combination with the gas generator, of the gasket composed of suitable material; a cover or lid the flange or rim of which rests firmly but detachably on said gasket; a chimney base, the bead of which fits on the rim of said cover; a locking ring provided with flanges; said flanges being adapted to operate in conjunction with suitably arranged hooked arms attached to said gas generator, so as to tighten or loosen the parts, thereby opening or hermetically closing said joint, substantially as described.

704,555. Lubricating Device. Bradford H. Locke, Denver, Col. Filed Nov. 20, 1900. Serial No. 37,093. (No model.)

Claim.—1. In a motor, the combination of an outer sleeve or casing slotted or perforated circumferentially, an absorbent mass covering the circumferential series of slots or perforations, and a ring secured to the motor shaft and adapted to throw outward against said absorbent mass any oil which may reach the same, substantially as shown and described.

704,589. Sparking Coil Casing. Charles F. Splittorf, New York, N. Y. Filed Apr. 30, 1902. Serial No. 105,307. (No model.)

Claim.—1. A sparking coil casing comprising a shell composed of tough non-conducting material, and an inner lining therefor composed of material possessing the quality of non-conductivity to a higher degree.

2. In a sparking coil casing, a cylinder composed of tough, non-conducting material, an inner lining therefor composed of a thin sheet of material rolled upon itself in several plies, and possessing the quality of non-conductivity to a higher degree, a cylinder cap, an insulating disk at its inner surface, and a body of plastic insulation interposed between said disk and the coil winding.

3. In a sparking coil casing having the usual terminal openings, an insulating bushing within each of said openings, each of said bushings having an inward retaining flange and an outwardly projecting flexible extension.

704,655. Bicycle Lock. Henry W. Morgan, Lestershire, N. Y. Filed Aug. 1, 1901. Serial No. 70,522. (No model.)

Claim.—In a bicycle or like machine, and in combination with the crank hanger and crank shaft, locking means located in the plane of the frame and comprising a pin fitted in a transverse opening of the crank shaft and having its end portions extended, a casing secured to the crank hanger in the angle formed between the front and rear reach bars, an internally threaded tube secured within the casing, a lock bolt having screw thread connection with the said tube, and a plate rotatably fitted in the outer end of the casing and having a keyhole in line with the said lock bolt for the insertion of a key for projecting the lock bolt into the path of an extended end of the aforesaid pin or for withdrawing said lock bolt out of the path of the said pin, substantially as and for the purpose specified.

704,663. Two Speed Driving Gear for Cycles. Alfred Pellant, London, England, assignor to The Hub Two Speed Gear Co., Limited, Salford, England. Filed June 25, 1901. Serial No. 66,025. (No model.)

Claim.—In a two speed gear for cycle wheels the combination with the hub provided with internal teeth, the spindle provided with teeth, and the loose gear pinion on the spindle of the sliding clutch formed of two parts, the outer ring provided with external teeth engaging with teeth on the hub, pawls pivoted thereto, and the inner part provided with external ratchet teeth with which the pawls engage and internal teeth to engage the pinion or teeth on the spindle and the sliding clutch sleeve, substantially as described.

704,680. Two Speed Driving Gear for Bicycles. Walter Goodbrand, Manchester, England. Filed Feb. 12, 1902. Serial No. 93,808. (No model.)

Claim.—1. In a hub two speed gear the combination with the chain wheel, planetary pinions, and stationary spindle, of a hub provided with a groove and pawls pivoted therein, and a sliding clutch provided externally with ratchet teeth to engage the pawls, which when the chain wheel is in action lock the mechanism through the medium of planetary pinions, and revolving hub, and prevent the rotation of the sliding clutch in relation to the hub, and which when the chain wheel is out of action permit the hub to rotate around the clutch, substantially as described.

704,713. Explosive Engine. Mathias J.

Klein, Baltimore, Md. Filed Jan. 17, 1901. Serial No. 43,659. (No model.)

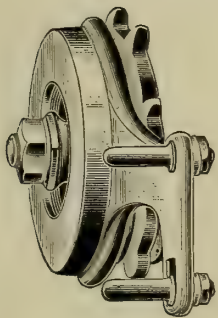
Claim. 1. In an explosive engine of the four cycle type, the combination, of a single acting cylinder, having on the compression side of the same an insulated cylinder extension, and on the other side of the cylinder a water jacket, the highest point of the latter having communication with the atmosphere as described, said water jacket being surrounded by air ribs for cooling the water in the jacket, of a piston, having a hollow piston extension slightly smaller in diameter than the piston, in length equal to the piston stroke or longer, and extending into the cylinder extension, the hollow space of the piston extension being closed to the atmosphere, for the purpose and substantially as shown and described.

704,885. Combined Mud Guard, Supplemental Seat, and Parcel Holder for Bicycles. Henry M. Lambert and Obed H. Joy, Portland, Ore. Filed July 12, 1901. Serial No. 68,073. (No model.)

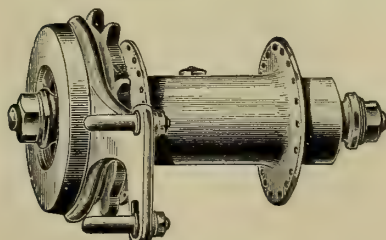
Claim.—1. A bicycle attachment, comprising a combined seat and guard portion; two opposing members pivotally mounted on said seat and guard portion, said opposing members having clips to engage the diverging back bars of a bicycle frame, and bracket members connected at their lower ends to said opposing members, and extending upwardly and rearwardly to loosely engage the seat and guard portion, as specified and for the purposes described.

704,871. Bicycle Attachment. John B. Davis, Dayton, Ohio, assignor of one-half to W. J. Peters and N. B. Peters, Troy, Ohio. Filed Mar. 14, 1902. Serial No. 98,160. (No model.)

Claim.—1. In an attachment for leading bicycles in the rear of vehicles, the combination with the steering fork of a bicycle, a horizontal fork having a connection with said steering fork, a bow or yoke having a pivotal connection with said horizontal fork, hooks or angular arms connected to the ends of said bow or yoke, said hooks or angular arms being adapted to inclose a vehicle axle, a saddle adapted to inclose the upper portion of a vehicle axle, and a spring connected to the median portion of said bow or yoke and to which said saddle is loosely connected, the said spring serving to maintain said saddle in rigid contact with the vehicle axle and to permit of the yielding motion of the attachment due to the moving vehicle, substantially as specified.



DETACHABLE.



UNIVERSAL.

PATENTED

June 12, Aug. 14, Dec. 25, 1900.
Feb. 19, Mar. 26, April 1, 1901.

In the contest held on July 12, on Kenwood Hill,
under auspices of

MINNEAPOLIS CYCLE DEALERS' ASSOCIATION

WYOMA
Coaster Brakes

TOOK FIRST PLACE WITH O. W. THOMAS,
AND THIRD PLACE WITH B. DIERECKS.

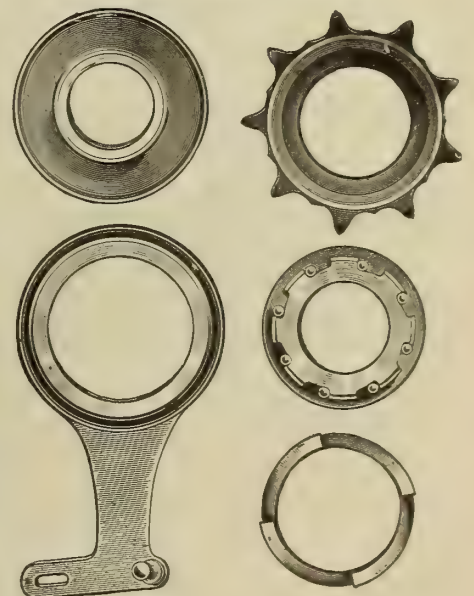
NO PICKED SAMPLE WAS USED.

MADE IN TWO MODELS.

DETACHABLE and UNIVERSAL.

Reading Automobile & Gear Co.,

Tenth and Exeter Sts., READING, PA.



HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

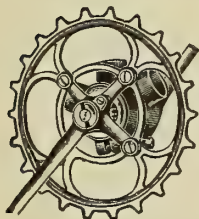
Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

**"D. & J." HANGERS**

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

—AND—
The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY
THE NATIONAL CEMENT & RUBBER MFG COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

**MORSE TWIN CHAIN
ROLLER**

NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

FOR SALE—Brand new latest model Marsh
Motorcycle, \$125. E. H. CORSON, New Eng-
land Agent for Merkel Motorcycle, 100 Boylston
St., Boston.

**ELWELL
EUROPEAN MOTOR CYCLE TOURS.**

England and France, August 20, 1902.
Great Britain and the Continent starts June, 1903.

F. A. ELWELL, 58 Prospect St., Waltham, Mass.

**The Only Tires Fit For
Motor Bicycles—
GOODYEAR
DETACHABLES**

GOODYEAR TIRE & RUBBER CO. AKRON, OHIO

You all know what the diamond stands for among
precious stones. You can't well afford
not to know that

D-I-A-M-O-N-D-T-I-R-E-S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

**Through Sleeping Car Line to Grand
Rapids, Mich.**

A Pullman Sleeping Car of latest construc-
tion is now attached to New York Central
train leaving Grand Central Station at 4:00
p. m., daily, running through over the Michi-
gan Central, arriving at Grand Rapids at
12:55 p. m., next day, connecting in Union
Station for all points in Western Michigan.
For information and sleeping car reserva-
tions inquire of New York Central Agents.

ALL ROADS ARE EASY WHEN THE



**STAR
BALL
RETAINER**
IS USED.

With millions in daily use, it has stood the test for
more than five years, and is adaptable to ball bearings of
any kind.

If you are users of ball bearings we would be pleased to hear
from you and mail you our catalog with the latest information,
which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

REGAL BICYCLES.

STEARNS BICYCLE AGENCY,
General Distributors,
SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

The Week's Exports.

But for the shipment of some \$12,000 worth of cycle stuff, last week's export manifest would have been a very light affair. The only other shipment of moment was that to the East Indies. The record in full follows:

Antwerp—3 cases bicycles, \$75; 13 cases bicycle material, \$556.
 Amsterdam—20 cases bicycles, \$775.
 British East Indies—81 cases bicycles and material, \$2,421.
 British West Indies—23 cases bicycles and material, \$424.
 Belfast—2 cases bicycles, \$70.
 British Guiana—4 cases bicycle material, \$34.
 British Possessions in Africa—15 cases bicycles, \$880.
 Cuba—6 cases bicycle material, \$95.
 Dutch East Indies—11 cases bicycles and material, \$649.
 Dutch West Indies—2 cases bicycles and parts, \$30.
 French West Indies—1 case bicycle material, \$159.
 Genoa—15 cases bicycle material, \$435.
 Glasgow—15 cases bicycles, \$450.
 Hull—15 cases bicycle material, \$150.
 Havre—4 cases bicycles, \$80; 16 cases bicycle material, \$1,230.
 Hamburg—11 cases bicycles, \$546; 25 cases bicycle material, \$825.
 Lausanne—41 cases bicycles, \$615.
 Liverpool—81 cases bicycles, \$1,459; 9 cases bicycle material, \$335.
 London—125 cases bicycles, \$4,657; 84 cases bicycle material, \$5,444.
 Malta—5 cases bicycles and material, \$335.
 Mexico—1 case bicycle material, \$17.
 Newfoundland—2 cases bicycles and material, \$122.
 Peru—3 cases bicycles, \$151.
 Rotterdam—1 case bicycles, \$20; 21 cases bicycle material, \$800.
 Venezuela—1 case bicycles, \$13.

The first motor car to reach Vienna was driven by M. Renault, and that gentleman was promptly decorated with a laurel wreath, which went around him like a life-buoy, covering him with embarrassment and making his rivals green with envy. Not so the first motocyclist to arrive—he was himself a Bucquet.

Metric System and the Institute.

In the July issue of the Franklin Institute Journal are printed several communications in which the proposed adoption of the metric system is discussed from both sides of the question.

Messrs. William Sellers and Coleman Sellers both oppose it, and each refers to the plan—the latter crediting it to Whitworth, of screw thread fame—of adopting a meter just 40 inches long instead of 39.37, which would make 25 m/m equal 1 inch and enable the change to be made with less disturbance.

Benjamin Smith Lyman also opposes the metric system, but Professor Thurston and John C. Trautwine, jr., as vigorously stand up for it, the latter bringing out a fact not generally known, perhaps, when he closes his letter as follows:

"It is now a quarter of a century since the Franklin Institute, by the narrow majority of 41 to 39, adopted a report opposing a proposition looking to the extended use of the metric system. At that time the institute might have endorsed the metric system for the system's sake; but the time has now come when she had better indorse it for her own sake. She cannot afford to neglect the present opportunity of reversing her action of 1876."

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ...

OILERS.**"PERFECT"**

25c.

"GEM"

5c.

"LEADER"

10c.

"CROWN"

5c.

"STAR"

10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs., 240-2 W. 23d St., N. Y.

PROF. SHARP

ON THE

CUSHION FRAME.

"On bad surfaces the additional comfort afforded by the Hygienic Cushion Frame is very striking. The jolting at the saddle is tremendously reduced. Spring-frame machines have been tabooed by the fast brigade on account of their slowness, but at my usual rate of travelling I cannot say that the Hygienic Cushion Frame bicycle is appreciably harder to drive on smooth roads. Uphill it is equal to the best I have ridden. I am convinced that the majority of cyclists would derive additional pleasure from the pastime by adopting a spring-frame machine so excellently designed and made."

PROF. ARCHIBALD SHARP,

B. Sc., A. M. I. C. E.,

in *The Cyclists' Touring Club Gazette*.

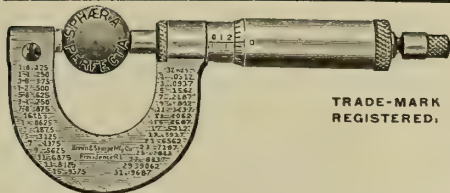
Give that customer of yours a trial ride on a cushion frame. The sale of one will follow.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.



TRADE-MARK
REGISTERED.

STEEL BALLS

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.
 That every ball is within 1-10,000 of an inch of exact size.
 That the balls are made of the best quality of true crucible tool steel.
 That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

IF YOU WANT THE BEST

— BUY —

G & J Tires

E. P. BLAKE COMPANY

New England Selling Agents

57-59 Sudbury Street, - BOSTON, MASS.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

*Electric Lighted—Chicago,
St. Paul and Minneapolis*

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

*Fast time to Marquette
and Copper Country*

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

461 Broadway - New York 435 Vine St., - Cincinnati
801 Ches't St., Philadelphia 507 Smith'ld St., Pittsburgh
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.



The Authority of the Cycle World

RELIABLE NEWS

ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.

Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Through all Bookshops and Newsagents or from the
Publishers

ILIFFE & SONS Limited,
3, St Bride Street, London, E.C.

and HARTFORD STREET, COVENTRY

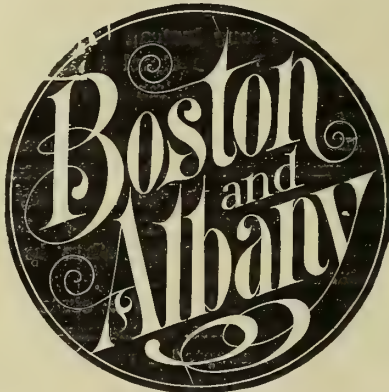
THE BICYCLING WORLD

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect April 29, 1900.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	4.00 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines.
A. H. HANSON, G. P. A., Chicago

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on al
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.

BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,

49 Fiddle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, July 31, 1902.

No. 18

L. A. W. DECLARES ITSELF

Takes Motocycling Under its Wing and Pledges its Support—Probable Results.

The L. A. W. has finally taken the motor bicycle to its bosom.

While the League's constitution is wide enough to practically admit the world to membership, the fact is not generally known and was so little appreciated by motocyclists that they were in doubt as to the League's exact attitude toward them. It was not until that undoubted fact was strongly urged on them that the L. A. W. officials awakened to the opportunity they were permitting to pass. With the awakening came resolution—this resolution passed by the executive committee of the organization:

"Whereas, We recognize that the motor bicycle is growing in popular favor, and that the number of those who ride this form of cycle is rapidly increasing; and

"Whereas, We feel that the riders of the motor bicycle have a common cause with the riders of the bicycle in securing the rights of wheelmen on the road, the right to carry wheels as baggage, the improvement of the highways and the construction of cycle paths; and,

"Whereas, We believe that all those who ride cycles, whether the same be propelled by the rider or by a motor, should unite and work together in the prosecution of a common cause; therefore be it

"Resolved, That we, the executive committee of the League of American Wheelmen, most cordially invite all riders of the motor bicycle to become members of the League of American Wheelmen, that we may co-operate in the work which is before us."

The resolution is timely and should accrue to the advantage of both the League and the motor bicycle. One of the immediate results will probably be that the L. A. W. will take over the membership and affairs of the Associated American Motocyclists, the organization formed in Boston some three years ago, and which, save for a few short spasms of activity, has been dormant ever since. It was born before its time, and attained no inconsiderable strength, but the L. A. W. will gain some prestige by its absorption, overtures for which are now in progress,

Big Company Changes Name.

What was the Automobile & Cycle Parts Co., of Cleveland, Ohio, is now the Federal Mfg. Co., with headquarters at the same place.

The change is one of name only, and does not in any way affect the management of the corporation or of its several factories, the officers, managers and salesmen of which last week met in Cleveland for their annual talkover.

"The products of the company's factories are so diverse that a comprehensive firm name is a necessity," is the official reason for the change of title.

Opening in Hungary.

United States Consul Chester at Budapest, Hungary, in a report on American goods in Croatia-Slavonia, a province of Hungary, states that American bicycles are to be found in limited quantities, while the word "America" in itself is sufficient recommendation for articles in that province, and this alone gives a good opening for United States exporters. He further states there is plenty of room for more, and there are good chances for pushing our sales if we enter the market at once. There is also a good opening for machinery used in the construction.

Houk's Pool Dries up.

According to reports from abroad, the bottom has dropped from under George W. Houk's deep, dark million dollar pool. "An unexpected development" in regard to the purchase of an alleged master patent is given as the cause of the collapse. This pool, it will be recalled, was the one in which the foreign interests of the Morrow, Bar-west, New Departure and Universal coaster-brakes were alleged to be involved—alleged because on this side all of those claimed to be concerned repudiated knowledge of or connection with the mooted combine.

Thor Coaster Brake Coming.

While it has been known that a Thor coaster brake was in prospect, it is now possible to say that it shortly will be in evidence. Its makers, the Aurora Automatic Machine Screw Co., are well advanced with the work and will have it on the market in ample time for next season's trade.

WOOD RIMS WILL RISE

Long Postponed Advance to be Made—Increase Will be Substantial.

In common with other materials that enter into the makeup of bicycles, the price of wood rims for use in the 1903 models will be substantially higher than heretofore.

Rock elm and maple, the two woods of which most rims are made, have steadily advanced, the cost of the former being now so steep as to practically preclude its use for bicycle work. Within the past few years its price has more than doubled, the exhaustion of the hickory supply and the consequent call of buggy builders for rock maple having been the chief cause of the advance.

The increased and increasing demand for maple for flooring purposes has contributed to the increased cost of that material, which has risen some 25 per cent during the past year. The price of the maple strips used for rims, each strip forming one rim, is now two cents higher than formerly.

The conditions are such that an advance in the price of wood rims is inevitable. It has been postponed from year to year, but postponement is now no longer possible.

Big Buyer Coming Over.

Felix Fournier, the senior member of the importing house of Felix Fournier & Knopf, Paris, sails for this country on August 9. He comes to make his annual purchases of bicycles, motorcycles and parts, and will remain here until September 15. While in this country he will make his headquarters at the firm's New York office, 108 Reade Street.

New Tires for Old Ones.

While "trading in" old bicycles in part payment for new ones has long been a feature of the business in this country, the practice has never applied to anything else. In England, however, advertisements heralding "new tires for old and a little cash" are not infrequent. Over there they also appear to do quite a business in rerubbing and relining old tires.

"We are having the best late-season trade we ever had," is the report of J. J. Kelliher, one of the prominent dealers in Salem, Mass.

SENSE FROM THE BENCH

Iowa's Supreme Court Rules Bicycles Exempt From Taxation Despite old Laws.

It has been held by the Supreme Court of Iowa that a painter, paper hanger and bill poster who habitually uses a bicycle to earn a living, he being the head of a family, can claim its exemption under the code of that State that provides that the head of a family may hold exempt from execution, if a laborer, a team, with the wagon or other vehicle, and the proper harness or tackle by the use of which he habitually earns his living. The court holds that the fact that bicycles were not known when the statute was enacted makes no difference.

The case is entitled Robert against Parker, Sheriff, and is reported in 90 Northwestern Reporter, 744.

The court said in part: "That plaintiff was a laborer within the meaning of this section (Section 4,008) is not questioned. As certainly the bicycle is a vehicle. The decisions so holding are too numerous for citation. But is it a vehicle such as was contemplated by the legislature in enacting the statute?

"It is well settled that statutes of exemption should receive a liberal construction, such as shall aid, in so far as may be, in carrying out the beneficent object of the legislation, and they are to be construed in favor of those claiming their benefits. Because of the liberal construction usually given a statute of this character, the majority of the court holds that a bicycle is included in the term 'other vehicle' as found in the section quoted.

"While it was not in use, or even known, in the State at the time of such enactment, they are of opinion that the law should keep pace with progress and the improvement in the industrial arts, and that the bicycle should be adjudged exempt to a laborer who is the head of a family, and habitually uses it to earn a living."

Two judges, however, say that precisely what may be claimed as exempt is enumerated in the statute, and nothing should be added. The reference in the statute to a team and harness, the minority judges think, means that the "other vehicle" must be one of the character of a wagon, for of what use would a wagon be without a horse? If this contention be not true, anything within the definition of "vehicle" may be exempt, such as an electric car or automobile, regardless of the value of either.

Will Occur in September.

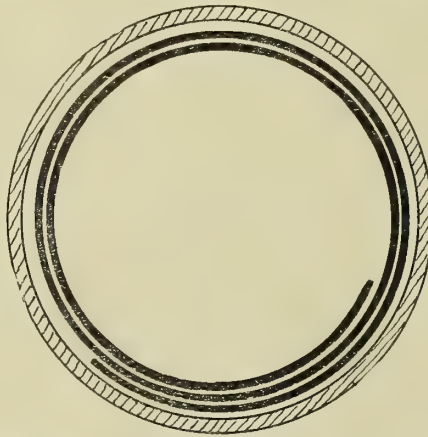
That historic institution, "The Wheel About the Hub," has been set for September 12 and 13 next. The Boston Bicycle Club is, of course, again standing sponsor, the committee in direct charge being those rare old vets, Dr. W. G. Kendall, W. B. Everett and J. J. Fecitt.

Improvement in Spark Coils.

It is fairly well realized among those who are qualified to speak that the absolutely essential qualities for a spark coil casing are that it be tough and yielding to withstand possible falls in handling, and thoroughly non-conductive of the highly induced voltage of the secondary. This is seemingly taken care of in the new coil being marketed by C. F. Splitdorf, of this city.

The first coils used on motorcycles in this country came from France, and had for their circular wall hard rubber. These gave a beautifully insulated coil, but the first fall was apt to place them out of commission, as the jar would crack the vulcanite. They were also sometimes cracked from too great a strain put upon them in tightening the bands which held them, or at times from being hit with a wrench or other tool when working on some nearby part.

When the construction of coils in this country was seriously taken up, the makers,



with their usual foresight, overcame this objection by using fibre tubing for the circular inclosing wall. This at once settled the matter of liability to breakage. While that essential point was taken care of, in the act there crept in another evil which has at times caused troubles frequently attributed to other sources.

While fibre is a good non-conductor, it is also porous and is not proof against short circuiting. In fact, those who have had extended experience can recall more than one instance where trouble has been finally traced to a leakage of the secondary circuit through the casing to the adjacent metallic part to or by which the coil was attached.

It would seem that the obvious method of overcoming the objections to either fibre or vulcanite when used alone would be in the combining of the two. This, as will be seen from the illustration, is just what has been done in the Splitdorf patent. To merely make a vulcanite tube to telescope into the fibre outer-case would hardly be enough, as there would always be the possibility of reverting back to the earlier troubles, removed in a measure by the cushioning effect of the outer fibre skin of cracking from some form of a sudden blow or jar.

This has evidently been taken care of in this patent, as it will be noted that the inner lining of vulcanite is in the form of a roll, turning upon itself to give several layers. By this construction it will be appreciated that a very thin sheet can be used to prevent cracking from outside causes, but more than all the coiling gives a spring-like action under any form of pressure.

NO BOOM IN JAPAN

And why None is Likely—Slow but Steady Increase in Sight.

"The importation of bicycles into Japan has more than doubled in the past two years, the value of the imports in 1901 being \$269,027, over 95 per cent of which came from the United States," writes Consul General Bellows from Yokohama. "The bicycle has not yet penetrated into the interior of the islands; it is used chiefly as a cheap method of locomotion in the seaports and large cities. Being employed principally for business rather than for pleasure, it is not subject to the caprice which caused such an extraordinary increase and decline in its use in America. The demand for bicycles in Japan is likely to grow for some time yet, after which it may be expected to continue fairly steady. For the first five months of this year the imports of wheels show an increase of 16 per cent over the corresponding period of last year. A cheap wheel, costing from \$12 to \$25, finds most favor. Some bicycles for the troops have been manufactured at the government works, and, as the customs tariff on bicycles and automobiles is not conventional, the government may, if it seems desirable, assist home industry by another schedule unfavorable to foreign makers; but there is no present indication that this will be done. A few motor bicycles or tricycles are seen on the streets, but they are not at all common."

Mica as an Insulator.

Mica is or may be employed in almost all forms of electrical apparatus, being one of the best insulators known, and in practical all round use perhaps the very best.

In resistance to the electric current and to puncture by spark it is about equal to glass, and stands therefore nearly at the head of the list, while its toughness, flexibility, infusibility and perfect impregnability to moisture (all qualities of great importance in an insulator), and the extremely thin leaves in which it may be obtained, make it absolutely without a rival for the purposes for which it is used.

While suitable for almost all kinds of electrical work, it finds its chief use in the commutators of dynamos and motors, in which service it has no substitute; and as all direct current machinery must have commutators, and the use of such machinery is constantly on the increase, it can be seen that the increasing use of mica is inevitable.

Its high price has naturally caused a substitute to be much sought after, but none has been found, and it seems unlikely that any will be found, animal and vegetable products being all barred by their susceptibility to heat.

Enormous quantities of small electric forms, such as commutator segments for fan motors, washers, small plates for the interior of cut-out boxes and fuse plugs and the like, are now punched from what was heretofore considered scrap mica, and was substantially valueless.

UNLIKE OTHER CONTESTS

Syracuse Coasts and Brakes on Original Lines—Results Prove Interesting.

Of the combined coasting and braking contest held at Syracuse, N. Y., on the 23d inst., under the auspices of the Y. M. C. A., it may be said that it more nearly approached a public test of coaster-brakes than any contest that had gone before; indeed, "test" rather than "contest" would appear the better characterization of the event. It was an ingeniously worked-out affair, and apparently too technical to be popular or to appeal to disinterested riders, since nearly all of those who participated were tradespeople concerned with the success of the particular coaster-brakes which they used.

The fact did not, however, detract from the interest in the event, in which the "grand prize" was won by a combination that will upset not a few wiseacres, i. e., a cushion frame coaster-brake chainless bicycle; it was ridden by George L. Potter, of Syracuse, who weighs some 200 pounds. The bicycle was a Frontenac, equipped with a Cinch coaster-brake and Riggs-Spencer roller gears and shod with Fisk tires. The special prize for the most efficient braking was won by F. E. Moorhead, of Elmira, who used an old Eclipse bicycle fitted with a Morrow coaster-brake.

In each instance the victory was decisive. Potter won by more than a hundred yards, and, as one man expressed it, he might be coasting yet had not an obstruction in the street compelled him to dismount. Moorhead's margin also was a safe one. He stopped in 21 feet, the second man, Frank C. Riggs (using a Cinch, of course), being 7 feet behind him. The third man was none other than J. E. Morrow, the son of the inventor of the famous coaster-brake of that name. The three were lightweights.

No exact record was kept of the distances coasted, the contest being decided on a scale of points based on the positions of the competitors. In coasting a man lost one point for each competitor who finished ahead of him. In braking four points were the winning score. One point was awarded for stopping in the shortest distance, and one each for stopping without wobbling, squeaking or "skidding." Of course but one rider could score four points; three was the highest possible total for the others.

The hill employed was an asphalted grade in the city proper. It is rather steep for the first few hundred yards, and required one rather abrupt turn around a corner which forced several riders to apply brakes.

The men coasted about 300 yards, when the signal to apply brakes was given. When each had come to what was judged to be a stop, and the distance was noted, the word to release brakes was given, and without a turn of the pedals the rider continued his

coast. But 60 feet had been marked off as the braking limit, and several competitors were unable to stop even within that distance.

The following is a summary of results:

Position.	Name.	Brake points.	Coast points.	Total.	Coaster-brake.
1.	George L. Potter....	3	36	39	Cinch.
2.	Fred La Shea.....	1	35	36	A. B. C.
3.	T. H. Higbee.....	3	32	35	Forsyth.
4.	H. Ter Dorst.....	2	33	35	Forsyth.
5.	Edward Rosbach....	3	30	33	Cinch.
6.	William H. Cady....	1	31	32	New Departure.
7.	Charles Eabolt.....	2	29	31	A. B. C.
8.	Samuel La Voie.....	2	28	30	---
9.	A. H. McGraw.....	3	26	29	Forsyth.
10.	W. W. Larrison.....	3	25	28	Cinch.
11.	F. W. Fisher.....	3	25	28	Cinch.
12.	F. E. Moorhead.....	4	24	28	Morrow.
13.	William H. Rex.....	3	23	26	Cinch.
14.	Frank C. Riggs.....	3	23	26	Cinch.
15.	George H. Stevens..	2	21	23	Cinch.
16.	J. E. Morrow.....	3	20	23	Morrow.
17.	C. Griswold.....	3	19	22	Cinch.
18.	Frank W. Knowland.	3	18	21	New Departure.
19.	C. H. Bishop.....	2	17	19	Cinch.
20.	B. T. Larrison.....	2	16	18	Forsyth.
21.	R. W. Smith.....	2	15	17	A. B. C.
22.	T. W. Russell.....	2	14	16	Acme.
23.	Lee Logan.....	3	13	16	Forsyth.
24.	Fred Kimber.....	3	12	15	Morrow.
25.	C. F. Besanson.....	3	11	14	Cinch.
26.	Charles T. Brown...	3	10	13	Cinch.
27.	Burt Smith.....	3	9	12	Forsyth.
28.	Ralph Clere.....	3	7	10	Forsyth.
29.	A. L. D. Warner.....	2	8	10	A. B. C.
30.	H. R. Hinman.....	3	5	8	Cinch.
31.	J. Harry Yorton....	1	6	7	New Departure.
32.	R. C. Thurwachter..	1	4	5	Forsyth.
33.	A. Whittington.....	3	2	5	Forsyth.
34.	A. Williams.....	2	3	5	Forsyth.
35.	W. D. Lanmore.....	3	0	3	---
36.	Harry Vail.....	1	1	2	Morrow.

Tire Valve Diameters.

With the reduction in tire diameters which has taken place in the past three years, and the consequent narrowing of the rims, there has not moved with these conditions a proportionate reducing of valve stem diameters. At first blush it would seem that this ought to have taken place, that the margin of safety—for strength—might be maintained at each side of the valve stem hole in the rim.

On the other hand, the reducing of the diameter of the stem would mean a reduction in the sizes of the internal parts of the valve proper, and it is very much a question if this could be done without sacrificing the working utility of these parts.

As a matter of fact, the entire subject hinges on the question of which will better stand the reduction, the valve's inner parts or the rim's side walls. From the standpoint of proper working of the former there seems little room for reduction, thus putting the burden of the whole matter on the rim.

Jacquelin's 12 h. p. Bicycle.

Jacquelin, the French racing man, is said to be spending all his time in studying and building motor vehicles, particularly motorcycles. He has now a motor bicycle fitted with a 12 horsepower engine and steered by a wheel placed in the centre of the bicycle, which moves on wooden wheels (!) like a car. Jacquelin stated that it was not yet what he wanted; he is going to have a steam bicycle, and hopes to travel at seventy or eighty miles an hour on the road!

"The A. B. C. of Electricity" will aid you in understanding many things about motor bicycles that may now seem hard of understanding. Price 50 cents. The Goodman Co., 154 Nassau street, New York. ***

HANSEN GETS THERE

Finally Sets up the Motor Bicycle Record Which he Sought—But he was Rained on.

On his first attempt last month a dog downed him. On his second trial, two weeks since, a terrific downpour fairly washed the road from under him. Nothing daunted, he waited only for the roads to dry, when he essayed the self-imposed task for the third time, completing it shortly after noon on the 23d inst. His time for the distance, 72:26:30, was considerably behind the mark at which he aimed, but it stands as the record, nevertheless.

Hansen's time for each hundred miles was as follows:

One hundred miles.....	4:44:50
Two hundred miles.....	11:52:00
Three hundred miles.....	18:50:30
Four hundred miles.....	25:22:20
Five hundred miles.....	32:05:50
Six hundred miles.....	44:48:00
Seven hundred miles.....	51:26:10
Eight hundred miles.....	56:23:20
Nine hundred miles.....	67:12:20
One thousand miles.....	72:26:50

His actual riding time was fifty-five hours. Hansen, whose sobriquet is "the Rainmaker" because of the invariable rainfall which has accompanied every undertaking he has attempted, did not escape with a dry skin on this occasion. He was twice interrupted by showers, and lost much valuable time on several occasions by the interference of railroad trains which crossed his path.

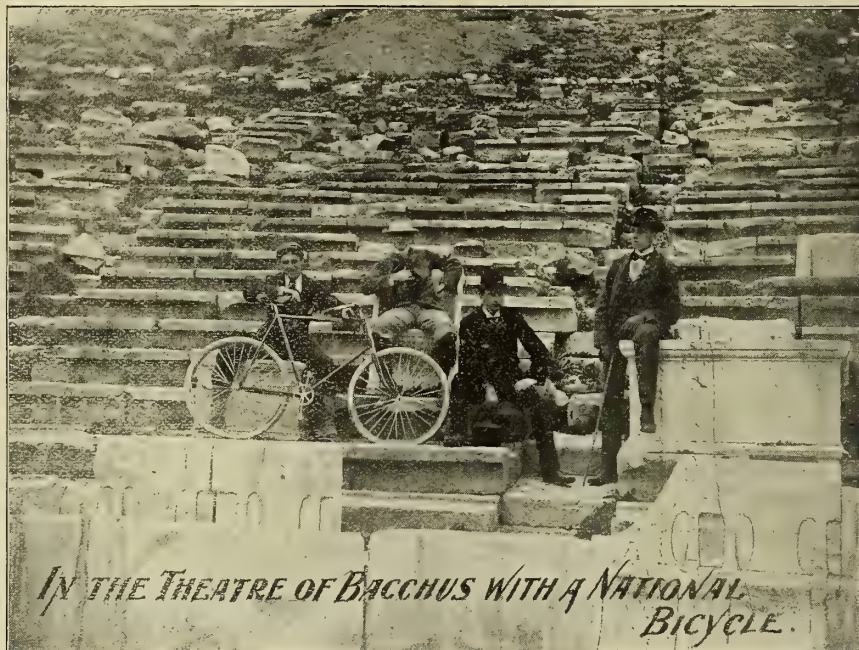
Hansen, of course, rode a Mitchell motor bicycle and bears witness to its splendid behavior. The motor itself gave absolute satisfaction, but two punctures and some coaster brake trouble served to force him behind the schedule he had mapped out.

Funke's Unusual Importation.

A. H. Funke, of this city, who for some time has been importing Kelecom automobile motors, is bringing over a shipment of the same motors for bicycle use. One of them is being shipped fitted to an Ormonde bicycle, probably the first English machine imported by a dealer in nearly a decade. The machine has been entered in the New York Motor Cycle Club's economy test which occurs at Manhattan Beach on August 9.

Increase of 100,000.

J. B. Tucker, the head of the Tucker Bicycle Work Co., Urbana, Ohio, is in the city. He appears as content and well groomed as ever, and not without reason. He this year sold 100,000 more rims than ever before, and expects to increase next season's record by as many more. The demand of the jobbing trade, he states, has been enormous.



THE SAME OLD STORY.

PHILADELPHIA, PA.,

May 23, 1902.

NATIONAL CYCLE CO.,

BAY CITY, MICH.

GENTLEMEN:—In June, 1899, you sold me from the factory one of your \$60.00 wheels. There are plenty of cheap wheels for sale here, in fact, they almost give them away; but my experience with your wheels has been such that I would not think of looking further.

No. 15627 has been in constant use, averaging from ten to fifteen miles daily over all sorts of city streets, and all it cost me in repairs is: 35 cents for cone in pedal, 75 cents for two rods through front and rear hubs, 5 cents for two small balls, \$1.25 for new chain, and last spring two new Goodrich tires, the first ones having worn through the canvas, exploding only because of thinness. The wheel runs as easy as ever. This is a record hard to beat.

I do not know whether you have an agency here or not. If you can sell to me direct, please send circular of 1902 models. Yours truly, JOSEPH J. MAGIN.

A NATIONAL RIDER NEVER CHANGES HIS MOUNT.

NATIONAL CYCLE MANUFACTURING CO., - Bay City, Mich.

Look out for this name at the valve stem—

— F I S K —

if you want the best.

HIGHEST GRADE. FULLY GUARANTEED.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] **\$2.00**
Single Copies [Postage Paid] . . . **10 Cents**
Foreign Subscription **\$3.00**

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, JULY 31, 1902.

The League's Opportunity.

While the *Bicycling World* is pleased that its urging has borne fruit, and that the L. A. W. now stands where it should stand, i. e., formally committed to the interests of the motor bicycle, we will be more pleased if the resolution is followed up.

Scattered throughout the country there are several thousands of motor bicyclists whose interest and support can be enlisted, and having rights and privileges at stake among the number are those who would make first class officials in their respective States or localities. The effort to gather them into the fold should be made.

The League merits their memberships and should obtain them. The motor bicycle will be the centre of several small battles, and at least one big one, before its exact status is established, and the time to prepare for fight is now. Motocyclists and all interested in motorcycles should realize the fact, and not permit fancied security to lull them into complete forgetfulness.

At the present moment there are opportunities for the League to prove its usefulness to the "common cause." There are railroad and ferry and steamship lines in plenty that have set themselves against the carriage of motorcycles, and others that impose onerous conditions, which the League should attempt to relieve. There is at least one city, St. Louis, that imposes a heavy license fee, and another, Hillsboro, Texas, which prohibits the use of motorcycles on its streets. If it does no more, the League can at least learn of the authorities of the two places the legal bases of their actions and in due time shape itself for attack if attack is necessary. These are but a few instances that come to mind. Others exist and may be brought to the surface, but enough has been cited to demonstrate that the L. A. W. officials can do something more than pass resolutions if they but will.

The motor bicycle affords the League a chance to, if not completely recover its great glory of the boom days, to at least regain much of its lost prestige and membership.

Chain Improvement.

After having been "on probation," as it were, for several years, the $\frac{1}{8}$ -inch chain has been approved in high quarters and now bids fair to become the standard.

Inquiries among chain makers for chains of the $\frac{1}{8}$ -inch width seem to warrant the conclusion that they will enter into largely extended use in 1903. Manufacturers who have heretofore held aloof from the movement, or have sanctioned it only so far as their lighter machines were concerned, are evincing a liking for the $\frac{1}{8}$ -inch size that is altogether new.

The chain has stood the test of time and is really deserving of the popular favor which has been accorded it.

When well constructed—and so far no maker has dared to take any chances with it—a chain of this width has been found to possess ample strength. It has stood up under the severest usage, and among those who used it there was never the slightest thought of taking a backward step.

It is interesting to contrast this triumph of the chain maker's art, the $\frac{1}{8}$ -inch chain, with the kind used on the early safeties.

Even after the high wheel had been ousted from its position, and the unsightly "goat" had become cock of the walk, chains of great size and weight, and even greater ugliness, were used everywhere. Such sizes as $\frac{1}{2}$ -inch and $\frac{5}{8}$ -inch were quite common, and they

looked as if they might have been cut out of the rough stock with a hammer and cold chisel.

It was not until '95 or '96 that the standard size got down to 3-16 inch. And for a time it looked as if a grave mistake had been made and that a return to the larger size would be rendered necessary, so much trouble did the 3-16 inch size give.

But the fault was in the chain and not in its design, and makers set themselves the task of correcting matters. Success crowned their efforts, and in time everything larger than 3-16 inch was driven from the field, as far as single machines were concerned.

The change to $\frac{1}{8}$ -inch was made more cautiously.

It was recognized that things had been cut pretty fine, and until it was seen that a chain of this remarkable lightness would do the work it was not used extensively. With limited success, however, came greater confidence, and the use of the new chain was gradually extended until it is admitted to be equal to any reasonable task.

What of the Riding School?

Where do all the pins go has been the subject matter of a lot of guessing and theorizing, yet it remains a non-solved problem. So it is with the old bicycles, the solution has never been satisfactorily established, although often discussed. Having failed in these two, those addicted to this sort of probing might take up something which is equally important, but which has so far escaped their attention and contention.

Where have all the beginners—as bicycle riders—and the once popular, prolific and pabulous riding schools gone to?

Most of us can recall the time when not only were finely appointed establishments kept up, but when every side street, and sometimes more important thoroughfares, had its quota of beginners. The statement that the boom has passed may account for the disappearance of the riding school proper, but bicycles continue to sell in no uncertain quantities, and of the lot there must be some sold to those who never before rode.

Can it be that the air is instinct with riding ability for the older element, and that the nursery accounts for the others?

Self-Convicted.

If there is one thing more than another that the English trade press has dwelt upon in American methods of sending bicycle abroad, it has been that our makers have

tried to force goods not made up according to local prejudices as to details.

According to one G. E. Osmond, who has been travelling in South Africa, and who is credited with a thorough conversance of that market for bicycles, the American makers succeed because they do these things which they have been accused of not doing. That is, they are prepared to sell what the riders demand. He further states that English makers suffer by sending out machines unsuitable for the market. Convicted out of their own mouths!

Another point which he scores for America is in the packing of the bicycles, which reach the customer ready to be ridden when taken from the case.

Built for all Time.

In bestowing immortality upon the "One Hoss Shay" Holmes but drew attention to the enduring qualities possessed by anything that its builders or makers put their best efforts into.

Such an article is, for all practical purposes, everlasting; at least it will last as long as its owner chooses to replace the parts which get the most wear, and is willing to put up with its antiquated appearance and design. Fashion's caprices must be ignored, of course.

Everlasting is a word that may come to be applied to many bicycles if their owners continue to exhibit their present fondness for them.

Each year appears to be their last, and "next season" is the time set for their replacement by something more modern and more in keeping with the present state of the art. But the next seasons succeed each other, and still the exchange is put off. Tires become useless and are replaced, the finish undergoes more decided deterioration, a cup or a cone may have to be renewed, but there the matter ends.

There are tens of thousands of machines now in use which belong in this category. They have hung on long past the time formerly set for their period of usefulness. They are sometimes fitted with coaster brakes or other evidences of modernity, and then enter upon a new term of life.

Four or five years is no longer a sign of age in a cycle. The time is coming when six or eight or even ten years will be no unusual period for one to be in use, without the end of the term finding it unfit for service.

Nothing but the best classes of machines

can emerge triumphantly from such a test as this.

Intelligent designing and sound construction must enter into the makeup of all such cycles. Breakages are liable to happen even to them, but they are of rare occurrence, else the presence of inherent defects is to be argued.

To build too well, too enduringly, is a reproach that was not aimed at the trade at one period. Then the ephemeral character of even some of the best machines was much commented on, and anything but favorably.

It is a change which has its drawbacks, of course. As long as the old machines last their owners, or many of them, will not buy new ones, and this undoubtedly hurts the selling departments.

But we cannot have the sweet without the bitter, and the natural pride felt in a superlatively constructed machine offers some compensation.

The Room at the Top.

No matter how crowded the field or how threshed out a line of business may be there is always room at the top for the man or the concern that is not satisfied to run in the ruck. In other words, there is no such thing as finality in industrial and mechanical enterprises, at least in this age when every breath is a breath of progress and every live thought a thought of advancement.

The man who thinks himself dying might just as well be dead for all the benefit he confers upon humanity or for all the good he is to himself. So it is in every industry. It is the live and doing concern that establishes the standard of progress, and without progressive concerns to set the pace, no industry can possibly develop or amount to the proverbial hill of beans.

The Ear in Motocycling.

Some motocyclists are so keen of ear or else so intuitive that should their bicycle stop they can almost guess at once what has gone wrong from the manner in which the motor ceases working. There seems to be some subtle difference in the death of a motor which fails from sooty degeneration of the sparking plug, as compared with the suffocation which ensues when the air is not diluted with gasoline or when some fracture of the "spinal cord" prevents the electric current from reaching its destination. In seven out of ten stoppages on a motor bi-

cycle it can safely be taken that the trouble is in the ignition, which is the heart of the motor. The other causes mainly refer to indigestion or improper carburation, gasoline famine, or want of lubrication.

Next Year's Costs and Lists.

With steel, leather and wood higher than for years past, the factory costs of the bicycles of 1903 will take a decided upward turn, and yet he would be a brave maker who would dare increase the retail price of his bicycle. There is a report current that one prominent figure in the trade is contemplating that very move, but whether he gets beyond the contemplation stage is an open question. In this respect, the manufacturer of jobbing bicycles is in a more fortunate position. He is able to shift his prices to his patrons as the cost of materials shift. But with bicycles of established reputation an increase of list price is a knotty problem.

It is difficult to understand the persistence with which so many writers and people who are not writers cling to the characterization of the motor bicycle as the "motocycle." As a motor tandem or tricycle or quad is as much a motocycle as is the bicycle, the inaccuracy of the designation is manifest.

Whatever complaints others may have, it is certain that the jobbing trade as a whole has enjoyed a remarkable season. The demand for tires, parts and sundries seems unlimited, and has been so long and steadily maintained as to excite wonder as to where the vast volume of goods goes.

It is a generally accepted truth that in marketing a new product, success comes only as the result of merit with hard work behind it. Either may accomplish something, but only the combination can bring about a full measure of reward.

"By all means renew my subscription. Would not be without the *Bicycling World* for many times the cost; in fact, I look for its arrival each week with more interest than you, perhaps, appreciate."—J. J. Kelliher, Salem, Mass.

It is about time that cycling writers abandoned the term "motor paced races." As all paced races are now motor paced the definition is manifestly superfluous.

ALL RECORDS BROKEN
 FROM 1 TO 43 MILES BY
ALBERT CHAMPION
 ON AN
ORIENT RACER
 PAVED BY AN
Orient Motor Tandem.

43½ MILES, 293⅓ YARDS IN ONE HOUR.

Orients cost more than other wheels, but they are built for speed and durability, and it pays in the end to buy the best. Agents offer other machines because they can make a larger profit. Do not let them make it out of you.

WRITE FOR CATALOGUE OF BICYCLES AND MOTOR MACHINES.

WALTHAM MFG. COMPANY, = = Waltham, Mass.

EQUIP YOUR BICYCLES
 WITH
Persons Saddles



and thereby increase their quality.
 They are the only saddles fit
 for high-grade bicycles.

PERSONS MFG. COMPANY,

C. A. PERSONS, Pres't,
 WORCESTER, MASS.

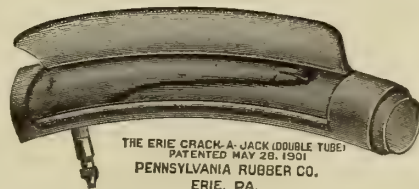
Jobbers, Be Wise!



Handle these
 Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
 our
 1902
 Price
 List.



Don't close
 until you
 consider
 our entire
 line.

PENNSYLVANIA
Rubber Company,
 ERIE, PA.

BRANCHES:

NEW YORK
 BUFFALO

CHICAGO
 PHILADELPHIA

BOSTON



HIGH VELOCITY TOOLS

Their Desirability and the Steel Which Enters Into Make-up and Quality.

There is a great diversity in the material which is offered as tool steel. Some of it will harden well, and will soften proportionately to the color tests as the hues on the brightened piece change with the increment of heat from pale straw to yellow, brown, pink, red, purple, blue, and soon to the greenish blue that precedes the glow which marks the departure of the last vestiges of hardening temper. This is the genuine carbon steel, according to a member of the Dundee Institute of Engineers. There are, however, other kinds of steel which occupy a place which carbon steel will not fill. These are what are known as "self-hardening steel."

In doing certain operations with cutting tools on iron and steel they are subjected to such excessive strain that heat is necessarily generated to such a degree that it would soon destroy the efficiency of a tool made of carbon steel. It would soon produce in it that degree of softness that would, with the pressure and motion, just fulfil the condition of cold welding, and the particles of the substance of the tool would unite with those of the substance acted upon, with the result of tearing away the metal off the point of the tool and destroying its cutting ability.

Self-hardening steel is a kind of alloy which is hard when in its normal state, as it cools naturally in the atmosphere. It is not necessary to quench it in water or to cool it rapidly from a red heat in any manner. It becomes soft enough to be shaped into simple forms when heated. It is of a nature which will not endure a white heat, and it is at a much higher temperature at a white heat than wrought iron is when equally luminous. It throws a dark red spark from the emery wheel when there is much carbon in its composition.

There are now a number of different steel manufacturers in Europe who are making special efforts to produce a first-class self-hardening steel which can be employed to cut iron and steel at much greater speed than has hitherto been possible. The keen rivalry among them has led to a more general employment of this class of steel than would otherwise have been the case. There seems to be considerable differences in the value of the different brands now on the market, but several at least seem to be a marked improvement on the old steels.

The advantages claimed are: Tools stand longer without grinding, and can be run at much greater speeds, can take heavier cuts and quicker feeds.

On wrought iron and steel forgings a cut can be taken with some of these steels at the rate of 100 feet a minute, and that for a considerable length of time, without the

tool showing signs of fatigue. Cast iron has been turned at a rate of about 70 feet per minute with good results.

Any one who takes the trouble to compare these cutting speeds with those ruling in the ordinary shop under old conditions will see how great is the advance. People have been known to contentedly turn away at cast iron at as slow a speed as 15 feet per minute, while from 30 feet to 40 feet is the more common practice.

There are several great difficulties to be faced, however, before a shop can be equipped with tools from this class of steel, and the cutting speeds increased to the utmost capacity of the same. Whenever a start is made one finds that difficulties spring up. The want of belt power in almost every case becomes evident, the gearing resents the increase of speed, while as a rule the body of the machine itself is not sufficiently rigid to permit of the best quality of work being turned out at the maximum cutting speeds of the tool.

Again, in many tools a sufficiently high speed cannot be got without making alterations. Another difficulty is the apathy, if not the active hostility, of the workmen. This is well illustrated by the remark passed by an old turner who had worked the same lathe for many years: "My lathe is as good to-day as it was thirty years ago, but if some of those office chaps, with their 'new fangled' notions about high speeds, get their way, it will be more knocked up in a month than in a couple of years of fair play."

To get the best results—that is, maximum output with good quality—the tools must be absolutely rigid, and must have ample belt power (the belts travelling at good speeds) and a large gearing ratio employed. The gears used ought to be machine cut to permit of high speeds without jarring. Under these conditions the new steel can be driven to its limit with a cutting speed about double that commonly employed when turning wrought iron or steel. With this steel, over 100 lbs. of cuttings can be turned off per hour on a lathe of moderate size.

The Ingenious Jehu.

A good story is told of an ingenious employe of a livery stable whose duty it was to deliver rigs to customers. He did not like to ride horseback, but did like to ride a bicycle. Therefore, in place of hitching a saddled horse at the back of the to-be-delivered rig, he connected a bicycle. His ingenuity was in the method employed in holding the bicycle in place.

He arranged an extra pair of forks on the regular forks, with the lower ends pivoted about three inches above the hub. When it was desired to "hitch on" the bicycle these extra forks were dropped down and fastened to the rear axle of the vehicle by means of two straps. The bicycle then followed the lead of the vehicle easily, and was then ready to ride back to the stable again after turning the horse and buggy over to the customer.

ENAMEL AND NICKEL

As Rust Preventers They Deserve all the Care That can be Given Them.

Rusting of frame tubes and the consequent effects is an evil having a twofold origin, as the rusting of enamel work may originate below the enamel; or, if the enamelling be well done, it is only when an outward cause chips it that rusting will start at this point. Varnishing the tubes would not be a preventive, because it would not affect the corrosion that arises under bad enamelling, and any blow that would chip enamel and expose the metal and so start a rust spot would certainly also pierce an added layer of varnish.

The rusting from within is incurable. It arises from cheap and careless methods when the frame is dipped and enamelled. If the frame is perfectly clean and the machine is properly rubbed after each coat, and many coats are applied, the resulting layers of enamel will never start internal rusting, and will preserve the metal, except when an abrasion of the enamel takes place.

It is the same with first class plating. A thick, whole layer applied to clean metal makes a permanent job. It is a common experience also when fitting cheap accessories to a first class machine to find a strong contrast between the quality of fittings and of the machine. Bell clips will rust in a week or two on a handle bar that keeps its plating for years.

There is no cure for bad plating and no cure for bad enamelling, but the accidental chipping of good enamelling is worth touching up with a protective film to prevent the rusting spreading, as when once moisture creeps in under a broken edge it starts as from a centre of corruption and does a great deal of harm.

Judge Imposed Severe Penalty.

Six months at hard labor was the penalty visited last week at Stamford, Conn., upon John William Scott, a negro, who says his home is in Washington, D. C., for stealing a bicycle owned by Goodrich E. Risely, of Stamford. Scott rode the machine to Port Chester and tried to sell it to a dealer there. The latter became suspicious and stepped into a barber shop next door, where Officer Miller was being shaved, and told him his suspicions. Without waiting for the barber to finish, the officer hastened to the Italian's shop, and after some trouble made the arrest.

There have been numerous bicycle thefts in this section of late, and to make an example of Miller Judge Wakefield imposed the severe sentence.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 349, New York. ***

SOME BELT EXPERIENCES

Various Types of Belts Were Used—The V Pulley and Mating Belt Preferred.

What means shall be employed as a connecting drive between the motor and the rear wheel of the bicycle possesses more interest the more one studies the problem from all sides. Whatever the future may hold, just at present, both in this country and abroad, the belt is the chief means used.

A writer in a foreign contemporary, in discussing his experiences with belts of several kinds and conditions, has this to say:

"In recent issues the question of belt transmission for motor bicycles has been entered into, but recent experiences on the part of the writer have served to somewhat modify his views with respect to the simple direct belt drive.

"Various types of belts were being experimented with, the machine being an ordinary 'Minerva.'

"The faults and failings of the twisted raw hide belt running over the usual corrugated engine pulley have already been dealt with, and it will be remembered that excessive belt slip was the most pronounced defect.

"In these later experiments, ordinary bark tanned twisted belt, duplex raw hide, a raw hide rope belt composed of a number of strands of narrow laces or strips, catgut with steel hook and eye, and finally the Lincona three-ply V belt.

"The bark tanned leather proved inferior to the raw hide, broke away more frequently and wore away more rapidly through friction with the pulley. The duplex raw hide belt gave promise of a better grip on the pulley by reason of one strip being cut wider than the other, thus causing the twisted rope to assume the form of a raised spiral at the edges of the outer strand, but the pulling away of the fastener was excessive, and every attempt to stop this by stitching together the ends or by rivetting proved futile; another difficulty proved to be the unequal stretching of the two sections.

"The rawhide rope belt proved to have an excellent grip on the pulleys, but failed in the matter of individual strands breaking away.

"The catgut belt had to be discarded after a very short trial, as the steel hook and eye turned over the small pulley with difficulty and caused the engine to work jerkily, with a big amount of slip at this point, the pulley being almost cut away by the friction; otherwise catgut would give a fine even drive; but there appears no method of securing the ends which will give a smooth run on.

"It was at this stage that the Lincona three-ply belt and special pulley were to have followed on, but after fitting the engine pulley it was discovered that the belt could not be run on the existing driving wheel pulley, because it just touched the tire, and it became necessary to set out the driving

wheel pulley a quarter of an inch to accommodate the wider belt.

"But as this could not be done at the moment, and a fairly long trip was in contemplation, it was decided to revert to a well-tried sample of the ordinary twisted rawhide, running on the smooth V-grooved Lincona pulley.

"It is in respect to the running of this combination that this article is primarily written, for the most marked improvement in grip and absence of slip was immediately observable, and the day following the fitting of the Lincona pulley the machine drew a trailer with a 112-pound passenger over eighty miles of more than average hilly country, and though at one time a considerable amount of oil found its way to the belt, the slip was not at all pronounced. Further than this, the same belt has done some 600 miles since, and neither belt nor pulley shows anything like the amount of wear noticeable

at this stage that the belt appears to have the maximum gripping effect.

"A minute examination of the belt failed to disclose any unequal or undue wear, and, indeed, the wedging action appears to have assisted in maintaining the even and equal shape of the belt.

"Naturally, the improvement in the drive with the round belt gave great promise of what might be expected from the Lincona belt, which is made to correctly fit the V pulley and obtains a much greater surface grip, and this is now on trial with every prospect of great success, but as it has only just performed its trial trip, which is the worst stage of this belt, it will be better to leave criticism to a future article.

"In a word, it appears that whatever the form of the belt, the wedging action and double side grip is the correct theory, and that the belt should in no case come to a seating at the bottom of the pulley groove, so that as the pulley wears it is only necessary to turn away the bottom of the V and restore the straight line of the sides."

Carrier Tricycles in France.

To those who tried, in times that are now long past, to introduce and sell to the small storekeepers carrier tricycles it will come as a surprise, and in a measure as a justification of their efforts, to learn that in France this special use has made the machine so numerous that legislation in respect of the same has become necessary.

This is owing mainly to the fact that labor inspectors have frequently reported that youths were forced to pedal loads much heavier than was good for their physical health. The Commission Supérieure du Travail has therefore prepared a law, which will shortly be submitted to the Conseil d'Etat, providing that no girl under eighteen years of age and no boy under sixteen years of age shall be allowed to operate carrier cycles.

The law further provides that the load for boys between sixteen and eighteen shall not exceed 165 pounds, this to include the weight of the machine. Nothing on this particular point seems to have been provided for as regards the girls.

Difficulties Before Them.

There has been appointed by the council of the Cycle Engineers' Institute, of England, a committee to collect evidence on the advisability of granting certificates to cycle mechanics who may want to act as repairers. The committee are at work on the matter, but in framing the tests to which the candidates' skill and ability will be subjected are finding it a mighty hard thing to preserve an average course which, while assuring competency on the part of the repairer, will not be so high as to limit the supply of certificated capable men.

Conservative estimates reckon that 97 per cent of motorcycle troubles are electrical troubles. At 50 cents per copy "The A. B. C. of Electricity" should be, therefore, grand value for the motocyclist. For sale by the Goodman Co., 154 Nassau street, New York.



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

after a similar length of run with the circular grooved corrugated engine pulley.

"The experience conclusively proves that a wedging action or side grip on the belt, whether the belt be round or V-shaped, is infinitely superior to a surface grip which is chiefly dependent on the tension of the belt, the corrugations on the pulley being so quickly worn away that they need not be considered in the total summing up.

"Indeed it is no exaggeration to state that the mere substitution of pulleys in this case increased the total drawing efficiency fully 25 per cent, and, compared with those periods during which belt slip was excessive on the old form of pulley, the claim might be increased to 50 per cent.

"The section of the groove in the Lincona belt pulley is as near as possible that of the ordinary capital letter V with the lower point cut off, and when the ordinary round twisted belt of full size is fitted it takes a bearing about midway down the V, and after about 100 miles a very slight amount of wear on the pulley causes the sides of the V to take a very slight hollow shape, and it is

NOW MAKING THEIR OWN

Profiting by Experience Orient People Produce an Orient Motor—What it is Like.

From their long experience as the first American makers to engage in motor cycles, combined with their use up to recently of two of the best known foreign makes of air cooled motors, the Waltham Mfg. Co., Waltham, Mass., in putting the Orient motors of that type on the market can certainly lay claim to having had exceptional opportunity to become familiar with all the advantages and disadvantages of the leading makes of motors.

Having found it necessary to more or less rebuild such motors as have been used before satisfactory results could be obtained, they deem it best to manufacture motors complete and build them throughout in a manner which would insure durability and reliable action. As their facilities in this line enable them to produce more than are required for their own use, they are in a position to supply the trade with motors of Orient quality.

The interior of the cylinder is made from special gray iron casting; this is surrounded by a series of fluted copper radiating flanges placed extra close together, giving an exceedingly large radiating surface. The head is held in position by four turned steel bolts extending through to the casing. The cylinder is accurately ground and lapped.

The piston is supplied with three close fitting rings with lapping joints, and every care is taken to obtain the greatest possible compression. The cases are made of aluminum, with gun metal bearings. The interior of the cases are machined to receive the fly wheels, and the outside is hand filed to a neat finish. The main shaft is of tool steel hardened and ground to fit the gun metal bearings. The crank pin is also of tool steel ground to a fit. The connecting rod is a steel forging with gun metal bearings at each end. The fly wheels are of large size machined all over and carefully balanced.

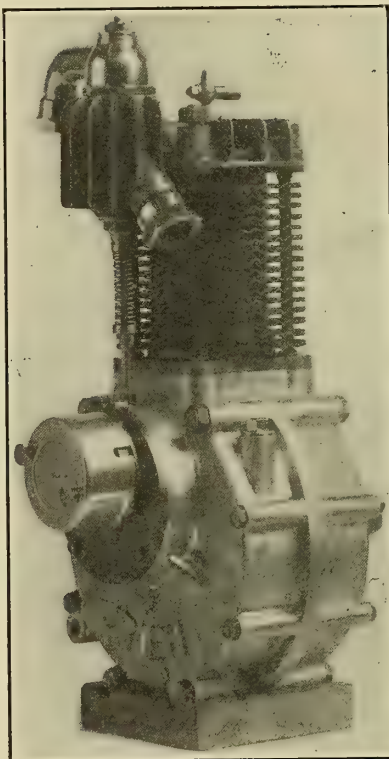
The exhaust valve is made from nickel alloy. The sparking device is simple and positive, and is arranged to advance or retard the spark at will, thus giving the greatest range of speed.

The illustration given herewith is a half-tone made directly from a photograph and shows the motor exactly as it is. The square wooden block at the bottom was merely used as a stand to hold the motor upright while being photographed.

The specifications are both interesting and useful, and are as follows: Height over all, 20¼ inches; diameter of cases over all, 9½ inches; width of cases, 4 11-16 inches; width over all, including the shaft, 11¾ inches; length of shaft outside of case, 1¾ inches; diameter of shaft, 13-16 inch; diameter of cylinder, 3 inches; length of stroke, 3¾ inches; maximum revolutions per minute, 3,400; weight complete, 75 pounds.

Carnegie on Success.

The secret of success is a simple matter of honest work. There is no question about there being room at the top for the exceptional man in any profession. The problem is how to get there. The answer is simple: Conduct your business with just a little more ability than the average man in your line. If you are only above the average your success is assured, and the degree of success is in ratio to the greater degree of ability and attention which you give above the average. * * * Now, what may be



THE ORIENT MOTOR.

claimed for business as a career is that the man in business is called upon to deal with an ever changing variety of questions. He must have an all-round judgment based upon knowledge of many subjects. It is not sufficient for the great merchant and business man of our day that he know his own country well, its physical conditions, its resources, statistics, crops, waterways, its finances, in short, all conditions which affect not only the present, but which give him data upon which he can predict with some degree of certainty the future. He must possess one of the rarest qualities; he must be an excellent judge of men; he often employs thousands, and knows how to bring the best out of various characters; he must have the gift of organization; he must have executive ability; must be able to decide promptly and wisely.—Andrew Carnegie.

Necessity is the mother of invention, but it is a wise invention that provides for its own father.—(Ohio State Journal).

SOURCES OF PLATINUM

Where That Metal, so Invaluable to Motorcycles, Comes From.

The chief source of commercial platinum is Russia, where the productive districts lie along the eastern watershed of the Urals, in the eastern portion of Perm in Kasan, and on the western watershed farther south.

A few years ago the greater part of the platinum came from the district of Nijni-Tagilsk, nearly due east of the city of Perm, but now the largest supply is obtained in the Goroblagodat and Bisersk districts, about 130 miles farther north and northeast of the town of Nijni-Tagilsk.

From the watershed of the Urals, two small rivers, the Iss and the Veeya, flow eastward and join the Tura River, and the productive platinum ground, about 2,000 square miles in area, is found along these three rivers. The platinum is found in gravel in the placers, both in the beds of the streams and above water level. Platinum is reported in a number of other places in the Russian empire.

Small quantities have been found in Canada and the United States, as also in Spain, Borneo, Japan, New South Wales, New Zealand and Tasmania. A few scales of it have been discovered in gold bearing sands in Austria; occasionally the metal is found in Brittany, France.

In Germany it is reported in the Hartz mountains, and in Great Britain a few grains have been found in the gold bearing sands of Wicklow, Ireland; on the island of Jersey, and in the sands of the River Urr, Kirkcudbrightshire, but none of the above sources, except Russia, of course, and possibly the United States, furnishes the metal in commercial quantities.

Tourist Cars on the Nickel Plate Road.

Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fridays. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest ticket agent, or write A. W. Ecclestone, D. D. Agt., 885 Broadway, New York City. ***

SMALL MOTOR CONSTRUCTION

Lack of Present Tabulated Data Prevents Many Opportunities for Research.

When the designer of a small, air cooled motor starts out the notable lack of tabulated data and experiences is one of the first things realized by him, supposing that he desires to study the matter technically before making the first steps, those of drawings from which to work. Drawings that shall be correct as to the larger details, not to say some that may be small in detail but large in results when all is done.

It is because of this lack of findable tabulated data that perhaps many rather too slavishly copy foreign practices, knowing that in a few notable instances the originals are successes as matters now stand.

It is in keeping with the national character, however, even when this first copying is resorted to, that the quickening of the knowledge gained by the first experiences from construction and trial soon leads, except in cases where no desire is there to be more than mere taggers on, to the carrying out of American ideas. From a number of instances that are apparent to many there is every indication that the lead in air cooled motors for bicycles will be taken by this country, as has the lead in most mechanically manufactured goods. Some of these show decided individuality, one particularly in the method of making.

While a foreign maker of note has taken a radical departure in making the cylinder without radiating fins—and it must be said that this maker is one of a reputation which would at least indicate that this step would not have been made for general adoption in its output of its small motors were it not tried and proven—there is no present indication that the idea will be followed here, unless it may be in isolated cases for experimental purposes.

As having a bearing on this specific point, it should be carried in mind that the very latest practice in water cooled motors, again by makers whose names spell experience and reputation, is to materially shorten the down reach of the water jacket from the combustion chamber and onto the cylinder. Taking these combined indications and always bearing in mind that the practices are carried on by those who are far from being novices, it would point to what at present has the stamp of a most radical departure.

Another item in details of head and cylinder that is receiving attention here and there is that of doing away with two part construction and casting them both in one piece. To the making of motors in small lots this at once presents an objection in the facilities for machining the inside of the cylinder. It means that the clear run bor-

ing bar cannot be used, and in small lots this would be a factor of no small proportions.

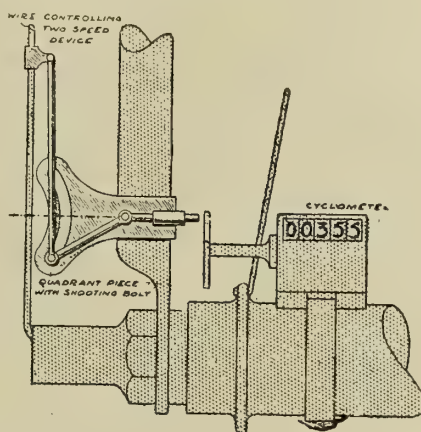
In the quantity making, however, this would be readily overcome by one means or another; the first which comes to our mind and who are experienced in the use of the machine tool, which presents many advantages, is the dash pot machine of modern design. This machine tool is especially constructed to do work of this very class, and to do it rapidly and completely.

Going back to the subject of radiation, it

Cyclometer for Two-Speed Hubs.

While two speed hubs are not yet in evidence in this country, their growing popularity in England has led to a clever idea, on the part of a Mr. Phillips, for determining the distance coasted while riding with this style of hub.

A New Departure Security cyclometer is



fastened to the back wheel, and its star wheel projects as shown in the illustration. A quadrant piece is fitted to the back stay with a shooting bolt and connecting rod, which is pulled up by the wire governing the two speed device, which has a middle position of free wheel. At this point, shown by dotted line, the bolt is thrown out to the fullest extent, and engages the star wheel. In the high or low gears the bolt is clear of the star wheel. A spring in the hub device brings the gear back, and the connection between the wire and the shooting bolt is rigid.

can safely be said there is much yet to be learned on this subject. It has been the generally accepted theory that cast iron of a certain general makeup is the only metal suitable for cylinders. In only one instance has a maker, and by a maker is meant one who is manufacturing and not tinkering, had the temerity to depart from what so many consider a hard and fast rule. Certainly the successes in this case go a long way toward exploding the sheep following theory so generally in vogue.

That there will be other departures seems assured in the light of general rules, and in fact a most radical departure is now contemplated by one experienced in the work.

This departure is not only from cast iron for cylinder and head, but in the entire method of making them as at present practiced. It presents some most ingenious adaptations, from other mechanical experiences, which theory supports in mere mechanical experiences. For its adaptability to small motors only the word of the sponsor is at present available.

While on this subject of radiation, the constructions mentioned above which have done away with radiating fins on the cylinder of one make of small motor and reduced the depth of the water jacket on a number of prominent makes, will stand more study than room can here be given to. It will be recalled by many that very early construction called for enormous radiating facilities. In fact, in one very early "endurance test" it is a fact that not only were water tanks of enormous proportions used, but in a number of instances competitors carried several hundred pounds of ice for cooling the water, and at that the run was made so late in the year there was snow on the ground.

Since that time radiating surfaces and assistants—tanks and water—have been gradually diminishing. Better understanding of proportions of contacting parts have naturally come, and with them has followed smoother running motors. In addition to construction features, however, the all important subject of lubrication has been advancing, and few appreciate how much that has had to do with this same better running.

If the truth could in any way be definitely arrived at it would probably be found that much of the earlier seizing of the pistons was not so much due to lack of so-called ample radiation as to lack of properly compounded lubricating oil. In fact, to-day one of the problems which confronts those who know the most on the subject of gasoline motors and are open to keen observation and given to expressing themselves sincerely, is that of the correct oil to use for lubrication. Unfortunately the oil trade, as a whole, does not bother themselves in the matter, and in many known instances do not live up to formula in delivering the goods ordered.

Many other features could be dwelt upon at length and with profit. One of these which recently came to special notice on an otherwise well designed motor was the size of the passage from the inlet and exhaust housing to the combustion chamber. The sweep of the piston was about equal to 20 cubic inches, with the combustion chamber approximating about one-fourth more. The size of the cross passage was $1\frac{1}{2} \times 1.16$ inches.

Here was a channel of $12\frac{3}{4}$ square inches trying to deliver and carry away 333 cubic feet of gas every minute. When the matter was pointed out to the maker the plea was put up that the motor had driven a bicycle so many hundreds of miles and never had given trouble. How much better work it would have done with better proportioning failed to appeal to the maker.

CONCERNING CHECKS

Some Facts About Them not Generally Appreciated—Importance of Datings.

Bank checks possess many advantages for the conduct of business, and are used to a proportionately great extent. They are in nature but orders for the payment of money, and are payable in the order in which they are presented, not according to that in which they are drawn. As given in the usual course of business they do not constitute payment of the indebtedness for which they are given until paid. Nor will the concurrent receipting of the debts for which they are given change this. If they are not paid on proper presentation, resort may be had to the original claims. The rule is different in this respect as to certified checks. So the having of checks certified constitutes payment as to the persons drawing them.

Checks should be dated. If not dated at all, and they do not contain any statement as to when they are to be paid, they are never payable. They may be ante or post dated, as well as dated on the day of delivery. By being ante-dated they may be made to cover prior transactions, and in a measure determine the relative rights of the parties to them, provided that no fraud is intended or done. Post-dating in the main determines the date of payment.

When post-dated so as to fall due on Sunday they are payable on the following Monday. Checks post-dated or maturing on legal holidays should be presented the day following. When post-dated checks are paid before the dates mentioned, the money paid on them can be recovered. If blanks are left for the date the holders of checks are thereby authorized to insert the true dates of delivery, but no other dates, and if they insert any other date it makes the checks void. Changing the date of checks without consent of the drawers will do the same.

The presumption is that when checks are drawn, funds will be provided at the banks on which they are drawn to meet them; but presentation for payment must be made

within a reasonable time. If not so presented, the holders will be charged with any consequent loss. When persons receiving checks and the banks on which they are drawn are in the same place, they should be presented the same day, or, at the latest, the day after they are received. Where they are in different places the checks must be mailed to some bank or person at the place where payable before the close of the day following their receipt, and the latter must present them before the close of the banking hours on the day following the receipt there; no extra time will be gained by holders depositing checks in their own banks for collection.

After duly presenting checks it is also the duty of the holder, if they are not paid, to notify the drawers before the close of the next secular day following the presentation and dishonor. No particular form of notice is required. It may be written or verbal. The principal cases in which losses occur from failure to use due diligence in the collection of checks are where the banks on which they are drawn fail in the mean time. If the banks continue solvent the drawers will remain liable to pay their checks for months, at least, after they are drawn. Presentation and notice of dishonor will also be dispensed with where there are no funds to pay checks, and where the banks on which they are drawn suspend payment before they can be presented, using proper diligence. After receiving checks they must be presented for payment, unless such presentation would be useless, before the original claims can be sued on, for by accepting checks there is an implied agreement to use that method of procuring the money for which they are drawn.

When checks are negotiable and pass by indorsement or delivery, the same degree of diligence will be required of each person to whom they are indorsed, in order to hold those indorsing them, as is required of original payees to hold original drawers of checks. But by putting checks in circulation the liability of the drawers cannot be prolonged. They must be presented within the same time by indorsees as by payees. Still, where checks are passed from hand to hand one or more of the latter indorsers

might be held, where earlier indorsers and the drawers would be released, as by failure of the banks drawn upon.

Signatures to checks may be written with pen and ink or pencil; they may also be printed or stamped. Banks are only required to see that the names of the drawers or checks correspond precisely with those of the person to whose credit the deposits have been made. Who should sign the checks of corporations will be determined by the State laws, by charters, bylaws or by the usage of the particular corporations. Every partner has the right to sign his firm's name to checks, unless prohibited by its articles of copartnership. So, also, can agents sign them when given express or implied authority.

As usually drawn, payable to certain persons named or order, checks are negotiable. A valuable consideration for them will be presumed. They may be transferred by indorsement, or, if payable to bearer, by mere delivery. Defences to them existing between parties cannot be raised against subsequent holders.—(C. E. Locke.

The Finest Type of Man.

The finest type of manhood is never overwhelmed or entirely dismayed, no matter what comes. A man of this best type may see his property swept away from him, his hopes blasted, his ambitions thwarted and his plans demolished, but his spirit remains undaunted; his courage, his trust and his self-confidence are undiminished. His success is beyond the reach of mere accident of fire, of panic or of temporary disaster; the foundation of his success is laid upon the eternal rock of truth, of justice, of probity, of high thinking and of square dealing, and no floods or misfortunes or commercial devastations can reach him. They do not touch the real man, for his investments are in himself. It is only the more shallow minds, men without reserve of character, without other resources than money or property, that go down in financial failure. The man who has learned to live in himself, and not in his property; who does not put his trust in riches, but in principle, does not lose his greatest possession when he loses his money.—Exchange.

BUFFALO Automobiles.

BUFFALO TONNEAU.

LOOK OUT

FOR CUT OF

Model 16 TONNEAU

IN NEXT WEEK'S ISSUE.

MR. C. S. HENSHAW, Boston Representative, 174 Columbus Av.

MR. E. J. EDMOND, New York Representative, 29 W. 42d St.

E. R. THOMAS CELEBRATED WORLD'S RECORD MOTORS.

Buffalo Automobile & Auto-Bi Company,

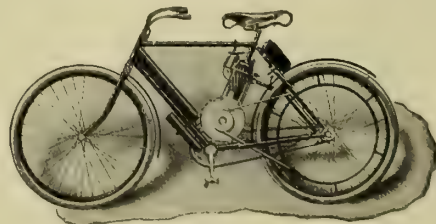
Model 15. Price, \$900.

Model 7 (Tonneau Detached). Price, \$800.

1200 Niagara Street,

BUFFALO, N. Y.

"AUTO-BI." Standard Motor Cycle.



Model 4. Price, \$175.

" 3. " 150.



RACING

Gus Lawson defeated Leander at Atlantic City on July 23 in two straight heats of a ten mile paced race. The first heat was won in 14:59 4-5 and the second in 15:19 2-5. The three mile match race between Hunter, McConnell and Ray Duer was won by Hunter. Sinclair and Zimmerman defeated Thompson and Boake in a two mile motor tandem race; time, 3:15 1-5. Thompson and Boake beat Babcock and Daly in a two mile motor tandem race; time, 3:14 1-5. Ray Duer won both heats on the 22d in a ten mile heat race with James Hunter; time of first heat, 15:13 2-5; second heat, 15:46 3-5. Leander and King won the team pursuit race, defeating McConnell and Lake; time, 3:34 1-5, one mile and five laps. Gus Lawson won first place in the five mile heat race on the 25th. Hunter was poorly paced by a motor bicycle in the final with King, who followed a motor tandem. The first heat was won by Lawson by three lengths, Hunter second; time, 7:59 3-5. Second heat won by Ray Duer by one-quarter lap, W. F. King second; time, 7:47 1-5. Final, between losers of first and second heats, won by King by three-quarters of a lap, Hunter second; time, 8:05 3-5. Leander rode an exhibition mile on a motor bicycle in 1:25 1-5. On the 26th Thompson and Boake won the two mile professional tandem race by one foot, Babcock and Daly second; time, 3:08. The unlimited pursuit race between W. F. King and John Lake was won by King in 7 miles 5 laps; time, 19:06 4-5. A fifteen mile professional paced race was won by Leander by $1\frac{3}{4}$ laps, Ray Duer second, Hunter third; time, 25:14 2-5. The two mile professional tandem race between Sinclair and Zimmerman and Thompson and Boake was won by the former by six inches in 2:58 2-5. On the 28th, after riding for twelve miles with the distance between them so slight that they seemed to have an equal chance of winning, Gus Lawson drew away from W. S. King and defeated him by a lap and a half at the finish of the fifteenth mile of a paced race; time, 24:42. The pursuit race between Leander and Hunter was won by Leander in four miles and two laps, the time being 10:29. A two mile paced race between Thompson and Boake and Babcock and Daly was won by the former team in 3:13 2-5. A two mile motor tandem race between Thompson and Boake and Zimmerman and Sinclair was won by the former by a foot in 2:56 3-5. Leander defeated Duer in a fifteen mile paced race on the 29th. In the last mile Leander spurted ahead, winning by nearly a lap in 23:33. The two mile professional motor tandem race was won by Thompson and Boake, Daly and Babcock second; time, 3:12.

Four thousand spectators viewed the national circuit races at Vailsburg on July 26. In the final of the half mile national championship Kramer, Kimble, Taylor and Lawson came together. At the start all loaded;

twenty yards from the start Taylor and Lawson came together, with the result that Taylor was pushed off the track. On the second and final lap Kimble had the pole. He set a lively pace the remainder of the distance. Kramer was second, with Lawson at Kramer's wheel. Taylor tried to come up on the inside and was pocketed. The finish was close between them all, with Kramer winning by half a length and Kimble as much in front of Lawson, with Taylor immediately behind; Time, 1:16 2-5. Billington, Schlee, Zanes, Glasson, Quille and Coffee started in the final of the one mile New Jersey State championship. Billington won from the field in a heartbreaking finish, followed closely by Zanes, who beat Glasson by a narrow margin; time, 2:05 3-5. The paced race in heats of three, five and three miles between Smith and Fred Dahlke, of Buffalo, was won by the former with comparative ease, Smith winning the first and third heats. Dahlke was handicapped by his pacing machine in the first heat. In the second heat, won by him, he had another machine, and in the third he used still another, losing only by ten yards. Time for first heat, three miles, 5:19 4-5; second heat, five miles, 8:31 1-5; third heat, three miles, 5:08 3-5. Taylor started in the two mile professional handicap, with Fenn and Lawson at the tape. Neither of the scratch men was able to forge up to the front better than third, which place was taken by Taylor, who shot out from the bunch at the last turn. Keegan won second from the 210 yard mark; Fisher won first from the 60 yard mark; time, 4:07 3-5. Expectations were upset when Schlee beat out Glasson in the five mile amateur handicap, with Billington a close third; T. F. Brown was fourth. Schlee had 50 yards, Glasson scratch, Billington scratch, Brown 200 yards; time, 11:28 2-5. In the consolation race for professionals Fenn won first, Mettling second, Schreiber third and Krebs fourth; time, 2:05 2-5.

Six thousand spectators saw world's records go by the board in both amateur and professional races at Vailsburg on July 27. The honors of the afternoon were carried off by Fenn, Hurley and Smith. Fenn was a competitor in the Grand Circuit Handicap, at ten miles, the feature event for professionals, in which he rode from scratch, and when Fenn crossed the tape a winner by half a length the previous record for the distance was lowered 1 minute and 20 seconds. Fenn covered the ten miles in 21:53 1-5. Frank Kramer held the former record of 23:12 2-5. Bedell, with 240 yards, was second, Krebs (100 yards) third, Bill Martin (160 yards) fourth, Tom Butler (160 yards) fifth. Hurley made his mark in the quarter mile flying start amateur event. Before this race the record was 29 seconds flat, held by Mike Coffey. When Hurley led his field over the tape the figures were reduced to 28 2-5 seconds. Billington was second, Dove third; time, 0:28 2-5—world's amateur competition record. Walter Smith went out behind pace

to make a new amateur mark for one mile. He succeeded by riding it in 1:26 2-5. Encouraged by this and the favoring conditions, Smith went out again to capture the amateur record for five miles. He more than succeeded. He first beat his own record for the one mile, and, going on, he set new marks for every mile from one to five, inclusive. The old records, made by Joe Nelson, were 1:28, 3:03 3-5, 4:36 4-5, 6:11 1-5 and 7:49. Smith's new records follow: One mile, 1:25 3-5; two miles, 2:53 1-5; three miles, 4:23; four miles, 5:52 3-5; five miles, 7:18 3-5. The two mile handicap also went to Hurley. He rode from scratch, but managed to get up in time to land the prize; O. Gerke (scratch) second, Glasson (scratch) third, Billington (scratch) fourth; time, 4:14 3-5. The one mile professional open, for non-first prize winners at Vailsburg during 1902, three heats and a final, final won by Lawson, Rutz second, Newkirk third, Bedell fourth; time, 2:08 3-5; lap winners, Grady, Kastendieck and Bowler, one each.

For the first time, perhaps, a motor bicycle race, at Manhattan Beach last Saturday, proved the feature of an afternoon's sport. But two men competed, and instead of the usual procession they fought every inch of the five miles. S. W. Anderson and W. G. Smith, both on Orions, were the contestants. Smith drew the pole and held it throughout, despite Anderson's repeated efforts to dislodge him. On each of the fifteen laps Anderson drew level on the straight, but lost on the turns, until the bell lap, when he just managed to squeeze past and win by inches. Time, 8:07. At no time were the men more than a yard apart, keeping the spectators on edge throughout. By comparison the twenty mile paced race (with pace-makers padded to balloonlike dimensions) was deadly dull. Walthour took the lead at the start and was never headed, winning by more than two-thirds of a mile in 28:52 2-5. Freeman was second and McFarland a bad third. Munroe also started, but on the eighth mile, and when on equal terms with Freeman, his pedal nicked the track and threw him heavily; he was scraped and bruised, but not seriously injured. Marcus Hurley won the two amateur events in hollow fashion, the half mile in 1:07 2-5 and the two mile handicap in 4:28 $\frac{1}{4}$. Winnie O'Connor, Albert Featherstone's famous jockey, whose legs and arms are of the pipestem proportions, rode an exhibition five miles in the fast time of 8:18 1-5—but the motor tandem which paced him was fitted with a wind shield.

Walthour made good at Boston on July 24, defeating Maya, Monroe and Hall in an easy manner in a twenty-five mile paced race, and covered the distance in 35:02 2-5. Walthour finished almost a mile and one-third ahead of Maya, the second man; Hall finished, unpaced, in the last place, almost four miles behind Walthour. During the first half of the contest it looked as if Maya might win, for he led from the gun until the

twelfth mile, and at times was almost a quarter of a lap ahead. Walthour succeeded finally in passing him. It was the beginning of Maya's troubles, for immediately after Walthour took the lead Maya's tire collapsed and he had to change wheels. He lost a lap and one-half by the accident, and from that point went to the bad and came very near being nipped by Monroe for second money. In the five mile amateur paced heat race between H. Jenkins and M. Tobin the former won by sixty yards in 9:33 $\frac{1}{4}$. This race was not finished. The five mile amateur handicap was run off in two trials and a final, the latter having eighteen competitors. Kimball and Potter were on scratch, with Linberg on the limit, 350 yards away. The scratch men caught the limit men at three miles. At the bell Potter was plugging out to the fore, while Kimball, accompanied by Curry, Logan and McKinnon, dashed up on the outside and won in that order; time, 12:17 1-5.

Elkes won a twenty-five mile paced race from Champion at Providence on July 23 by 125 yards, his time being 35:19 4-5, the fastest mile being the seventh, which Elkes rode in 1:20 4-5. The race was closely contested all through. Hurley won two events, the one mile open and the two-thirds of a mile handicap, starting from scratch in the latter event. At Revere on July 26 5,500 people saw the closest and one of the most exciting races of the season between Elkes and Champion, Elkes finally winning by a hundred yards. The race was for twenty-five miles, paced, and the winner's time was 36:58 1-5. The men started on opposite sides of the track. At the fifth mile Elkes overtook Champion and rode beside him several times around the track; then he lost his pace and fell back a little. In the twenty-second mile Elkes again got ahead of Champion and kept his lead to the end; the time for five mile distances was as follows: Five miles, 7:12 2-5; ten miles, 14:26; fifteen miles, 21:35; twenty miles, 28:47 2-5; twenty-five miles, 36:58 1-5.

The twenty-five mile paced race at Boston on July 23 between McLean, Moran and Nelson ended in a muddle. As McLean was going the twentieth mile the rider and his pacing machine slipped on the wet track and landed in a heap. McLean was not injured, but Blanchard, his pacemaker, broke his collar bone. At the time he was one lap in advance of Nelson and five ahead of Moran. McLean remounted his wheel, after losing several laps, and rode around to the tape and had an excited talk with the referee, R. F. Kelsey. The latter then thought it was time to call the race off, and he signalled the starter to fire the pistol. At the gun Nelson had ridden 21 miles 3 laps, Moran 21 miles 2 laps and McLean 20 miles 4 laps. It was naturally thought that the race went to Nelson, for, at the gun, he was leading by one lap over Moran, but the referee gave the race to McLean, stating that, inasmuch as the track

was wet and caused the tandem to go down when McLean was leading, he was entitled to the contest. The decision was protested by Nelson's manager.

Major Taylor finished second to Kramer in his first race for the half mile championship at the circuit meet, Washington, July 23, before 2,500 people. The final heat brought together Kramer, Taylor, Collett and Lawson. Kramer and Lawson set the pace, and Taylor was pocketed on the second turn from the stretch, but stole through on the turn into the stretch and beat Collett and Lawson out in the sprint, while he forced Kramer to the utmost to finish by barely a foot. Time, 1:04 1-5. In the mile handicap Taylor rode himself out, setting pace to catch the limit men, and did not finish. The race was won by Saxon Williams (100 yards), Schreiber (80 yards) second, Bill Martin (100 yards) third; time, 1:53 1-5.

By the irony of fate the motocyclist Bucquet, who accomplished such a wonderful performance in the Paris-Vienna race on his Werner bicycle, has escaped the perils of the Arlberg and the pitfalls of the Tyrol roads only to narrowly escape meeting with a violent death at the hands of an assassin. While returning home at St. Denis the other night he was seized from behind and struck by a knife in the neck. Bucquet cried for help, and the assassin fled. The unfortunate motocyclist is lying in a dangerous condition. It is generally supposed that the assassin was tempted to attack Bucquet in the belief that he had received a large sum of money after his victory in the big race.

In connection with the big twenty-five mile Cycle Path Handicap, which occurs annually on Labor Day, the promoters, the Associated Cycling Clubs of Long Island, have joined with the New York Motor Cycle Club in the management of a ten mile motor bicycle handicap, which will immediately precede the twenty-five mile event. While the latter will be held on the famous Coney Island paths, the other race will be run on the Boulevard itself. Incidentally, it will be the first handicap for motorcycles ever conducted in this country.

At Worcester on July 23 Freeman defeated McFarland in a twenty mile paced race. Freeman won by one-quarter of a mile. It was a close and exciting race from start to finish. During the first three miles neither man was able to make any material gain. At the sixteenth mile Freeman gained the lead, and from that time until the finish continued to gain steadily. In the closing mile both men loafed, and Freeman won easily by several lengths in 34:05 4-5.

James Moran was easily defeated by Harry Caldwell in a twenty-five mile paced race at Bridgeport on July 27, Caldwell winning by one and one-third miles in 37:24 3-5. There were 2,000 people present. In the two-thirds of a mile amateur event Fred

Ernst won, Curran second and Reed third; time, 1:19. The five mile lap race was won by E. Stander in 11:26, with Haggerty and Ernst tied for second place.

The Century Road Club still finds Sunday the best day to run its races. At Valley Stream, L. I., on July 27 its first annual open fifty mile amateur bicycle handicap road race was given. There were forty-four starters, and Fred Peterson, with 25 minutes' handicap, won in 2 hours 27 minutes 30 seconds.

In the quarter mile unpaced professional race at Salt Lake on July 25 W. G. Furman, F. J. Hoffman, Johnny Chapman and W. E. Samuelson crossed the tape in 24 4-5 seconds, breaking the world's record of 0:25 $\frac{1}{4}$, held by Major Taylor.

The Week's Exports.

Africa, England, Australia and Denmark in the order named accounted for the most substantial volume of last week's exports, the manifest in full being as follows:

Argentina Republic—1 case bicycles, \$32.
Antwerp—4 cases bicycle material, \$120.
Amsterdam—1 case bicycle material, \$10.
Azores—2 cases bicycles and material, \$25.
Berlin—1 case bicycle material, \$20.
British West Indies—18 cases bicycles and material, \$464.
British East Indies—27 cases bicycles and material, \$602.
British Possessions in Africa—208 cases bicycle material, \$6,165.
British Australia—104 cases bicycles and material, \$3,887.
Brazil—1 case bicycle material, \$30.
Bremen—1 case bicycles, \$12.
Christiania—3 cases bicycles, \$75.
China—33 cases bicycles and material, \$575.
Cuba—2 cases bicycle material, \$150.
Copenhagen—84 cases bicycles and material, \$2,476.
Central America—3 cases bicycles, \$20.
Christiansund—1 case bicycles, \$15.
Gothenburg—4 cases bicycles, \$100.
Glasgow—7 cases bicycles, \$205.
Helsingfors—1 case bicycle material, \$54; 5 cases bicycles, \$220.
Hong Kong—1 case bicycles and material, \$50.
Hamburg—15 cases bicycles, \$398; 29 cases bicycle material, \$1,308.
Havre—25 cases bicycles, \$275; 36 cases bicycle material, \$923.
Hull—1 case bicycle material, \$80.
Japan—52 cases bicycles and material, \$1,045.
Konigsberg—1 case bicycles, \$18.
London—2 cases bicycles, \$55; 35 cases bicycle material, \$2,225.
Liverpool—40 cases bicycles, \$1,033; 5 cases bicycle material, \$151.
Mexico—1 case bicycle material, \$25.
Newfoundland—1 case bicycles and material, \$78.
Philippine Islands—1 case bicycle material, \$50.
Rome—2 cases bicycles, \$75.
Rotterdam—63 cases bicycle material, \$1,168.
Southampton—5 cases bicycle material, \$849.
Stockholm—1 case bicycle material, \$65.
Uruguay—1 case bicycles, \$42.
United States of Colombia—3 cases bicycle material, \$18.

ABOUT OVERPRODUCTION

Accumulation of Unsold Goods not an Evidence of it, Argues one Man.

Dealing with the "Mischievous Fallacy of Overproduction," a writer in the Engineering Magazine makes these very sensible observations:

"The difference between the poorest nation on the globe and the richest is simply a difference resulting from the difference of production. Every day of idleness, every hour of loafing, or striking, or 'nursing a job' is a permanent and irreparable loss to the producer, the employer and the community. It is a sacrifice of something the worker might have possessed, and can no more be replaced than the lost day can be replaced.

"The natural condition of man is to be at work. He wishes to earn that he may buy. When willing, competent workers cannot secure employment, something is wrong with the industrial machinery, and that wrong is working injury to the whole country. No obstacles should be allowed to stand in the way of man's capacity to produce to the utmost; nothing should be allowed to stand in the way of man's increasing his comforts, luxuries and wealth, except the natural limit to his energies.

"The accumulation of unsold goods is not an evidence of too much production of that kind of goods, but too little production in other lines of business which ordinarily consume that kind of goods; that the only natural limit to a people's power to acquire, possess and enjoy material wealth is their capacity to produce that wealth; that products are in themselves buying power; that it is impossible to create products in excess of buying power; that products are wealth; that wealth increases in the proportion that production exceeds consumption; that it is impossible for wealth to increase so rapidly, or so largely, that it would exceed man's desires to possess it, or his power to pay for it.

"If the country is to have the maximum of prosperity it must have the maximum of production—we cannot become richer by producing less riches; there cannot be too much temporary surplus production of any useful article which can be safely stored until the people need that article."

And Flying Machines are far Removed.

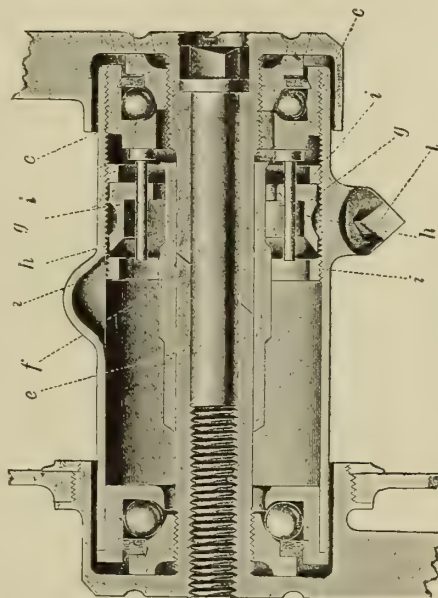
"The bicycle as a ready, useful and swift means of individual locomotion has come to stay," says a writer in a Buffalo paper. "I do not think that it will ever be superseded to any great extent by 'power' machines. It gives to the rider a sense of exhilaration, of buoyancy, of independence, that can be gained by no other means, and until we have 'really and truly' flying machines the bicycle will hold its own."

Departures in Crankhangers.

If the crank hanger needed frequent adjustment there perhaps could be no better means employed than some form of worm working on the inside. The fact, however, that modern construction is such that in bicycles possessing any reputation the crank hanger adjustment is rarely necessary makes this construction an expense without commensurate returns.

The patent right for a crank hanger of this kind is, nevertheless, being offered abroad, and reference to the accompanying illustration will show that the construction all through is ingenious, fairly simple and on good lines. The general type is the two piece hanger.

The spindle carrying the cones is hollow, and through it passes a long bolt shown at e. This bolt draws the two parts of the spindle and cranks together inside the sleeve f, their ends forming folding tapers which locate



the cranks in the 'right position. As will be seen, the cones are screwed up hard on the spindle and against the crank. By this method of construction the chain line of the bracket can readily be got inside the line of the ball bearings, which is a feature of very great advantage.

This is, however, not the main feature of the invention, which consists in the method of adjusting the cup to take up the wear of the bearing. The left hand cup c, is threaded inside the bracket body, and has projecting from its rear two pins h h. These two pins pass through two holes in a collar g, which is capable of rotating inside the bracket, being prevented from longitudinal movement by reason of the two confining collars i i. The outside edge of this rotating collar is provided with teeth which gear with a worm or screw l, which has a square head which can be turned by a hand key.

It will thus be seen that when the collar is rotated by means of the worm or gear, it drives round the two pins on the cup, and hence the cup itself, thus allowing of the adjustment being made. The adjustment requires no locking, by reason of the inability of the worm wheel to drive the worm. The lubrication is through the ends of the cranks,

BOILER-MAKING OUTDONE

Spoke Manufacture Claimed to Cause More Noise Than Any Other Industry.

Everybody has heard of the noise of the proverbial boiler shop, and a few know that a loom room with a few thousand looms at full blast can put talking at a discount, but how many, even of those in the bicycle trade, have ever been around where a few spokemaking machines were getting in their work. There is where you get the real noise.

The machines, which do the work automatically, take the wire from a coil and carry it through two dies and an arrangement that heads the spoke, at the same time cutting it off at the desired length.

These machines can be heard a great distance away from the works, and, although a wire mill is at best a very noisy place, can be heard above all the rest of the racket. The noise is so great that when running full force they fairly shake the building on its foundation. The noise produced is not so much a loud crash as it is a dull roar, and is made by the grinding of the wire through the dies and the hammering arrangement which makes the head on the spoke.

Operatives employed in the room with these machines find it absolutely impossible to yell loud enough to make themselves heard, and the only way a person can understand what is being communicated is by watching the movements of the mouth of the person talking. All the help in the room plug their ears up tight with cotton batting to prevent the noise from causing deafness.

In the days when bicycles were selling like the hot cakes sometimes referred to, one spoke mill which ran night and day to keep up with orders had so many complaints made against it by residents for half a mile in all directions, who could not sleep, that the concern operating the mill was forced to nail down all the windows and muffle the noise as much as possible before the people in the vicinity could enjoy a decent night's rest.

The Retail Record.

Haverhill, Mass.—I. M. Carter opened store.
Bristol, R. I.—William H. Hood opened store.

Tacoma, Wash.—Erving Peterson succeeds J. Baum.

Pomona, Cal.—C. L. Thomas succeeds A. M. Trundy.

Rumford Falls, Me.—Lee Adams succeeds J. E. Stephens.

Blackfoot, Idaho—Frank Rickens succeeds Rickens & Perry.

Homer, Mich.—Francis Van Horne succeeds H. A. Bottomley.

Spokane, Wash.—Graham & Hayes succeed A. B. Freeman and Wakely Bros.

THE PEDESTRIAN

What Will be his Position on the Roads of the Future?—A Speculation.

There are some who affect to believe that, in the near future, the era of road locomotion will once again be in full swing, as it was in the days of the stage coach. The railway altered all that for a time, but "Back to the Road" is to be the cry of futurity, and, when the new state of things comes about, there is, say these thinkers, to be a revolutionary change in our habits. There will then be two classes of roads. The first will be fine wide boulevards running from one big town to another, with scarcely a bend, and so engineered that all excessive gradients are avoided. These boulevards will be devoted to fast traffic, and it will be an indictable offence for a driver to take a slow vehicle over them. Foot passengers will only be allowed to cross at certain defined points, and it will be incumbent upon them to look first one way and then the other so as to avoid being run down. Any foot passenger who gets knocked down or run over will be liable to a fine of \$50. The roads existing to-day may be taken as the class of road falling in the second and minor category. They will be used by local traffic and by any vehicle that cannot maintain a minimum pace of twenty miles an hour. Where these roads would cross the main boulevards they will be carried over at a higher or lower level, as may be most convenient. Apart from the stringent regulations with regard to pedestrian traffic on the boulevards, wild animals, including horses and dogs, must be kept away from them by their owners, under pain of severe penalties. A loop road will be taken outside of each town, so that vehicles proceeding along the boulevards and having no intention of stopping, will be able to skirt the towns, and so avoid the traffic in the streets. Well, that's the idea, and who is there amongst us who can say that the scheme will not come to pass?

But, joking apart, says a writer in a foreign contemporary, much requires to be done to settle the vexed question of the rights of fast vehicles upon the road. At present we may, with reason, consider ourselves to be in a transitional stage. We are passing from the era of lumbering locomotion over narrow, curly and hilly roads to its antithesis pictured above, and we are being indulged in the conservatism and obstructive prejudices of old ladies of both sexes. As a consequence, if a constable, possessing a watch which is qualified for a museum, chooses to imagine that you are travelling at a furious pace (I always think that, in their sleep, policemen must be the victims of awful nightmares!) you are immediately haled before one of the aforesaid old, but highly respectable, ladies, and condemned to empty your pockets, or fill a prison cell till you do.

And the gentle pedestrian, he can wander, as his own sweet will may dictate, at large

all over the highway, causing you to smite him in the dark, and to dismount from your machine and lay yourself in the ditch. And the next chapter would relate how you paid the fines, compensated the pedestrian, and purchased a new machine. Now, being a pedestrian myself on occasions—I prefer those occasions to be few, for pedestrianism is a slow game—I am not over anxious that the class should have its privileges greatly curtailed, but those who walk must be brought to know that it is better for their own safety and for the general convenience that they should keep to the pathways and only cross the highways at a proper angle. There is a growing demand for a "rule of the road for pedestrians," or a set of regulations designed to keep them in their proper place, but one cannot help doubting the efficacy of any such regulations until, at least, the old tradition that the foot passenger may do as he pleases has been entirely eradicated from the human mind.

Porcelain Core Faults.

One of the so-called "mysterious" stoppings of motors sometimes has its explanation in the poor quality of the porcelain core. Some of these cores are defective by reason of the presence of metallic impurities in the porcelain. This forms the worst class and the most difficult to trace, for, in combination with porosity, the spark will short circuit through the porcelain even though there be no crack. In a case of this kind there is nothing that can be detected by the eye, as the short circuit occurs only when the plug is in the cylinder, where the resistance of compression aids the metallic condition of the core.

Another fault in them is that, although the porcelain itself may be made of absolutely pure material, it is slightly warped in the process of making, so that uneven strain in packing results in a fracture when the plug is subjected to the explosion heats and the consequent effects of expansion and contraction.

Two Tubes of Aluminum.

Contrary to the general impression, it seems that in the aluminum Humber bicycle, which was noted in the *Bicycling World* a few weeks back, the entire frame is not of aluminum, as was the old Luminum bicycle once made in St. Louis.

The aluminum that enters into the construction makes up the top tube and the lower diagonal—that is, the two tubes running from the head to the seatpost frame tube. It will be realized from this that while the aluminum tubes are placed in positions where they are subject only to compressional and some torsional strains, at the same time they are the very two frame members which convey front wheel road shock to the rider.

It is the expressed opinion of those who have tried the construction and who are qualified to speak that the introduction of these tubes gives a construction which absorbs road shock to a notable degree.

FRAME LENGTHS

What one Maker Considers Correct and a Difference of Opinion.

We were distinctly amused the other day on perusing the catalogue of a really famous cycle firm, says "*Bicycling News*," to find them going so very much astray in the matter of suitable frames for different heights. Their table came out as follows:

Frame.

For riders of 4 ft. 10 in. to 5 ft. 2 in. .22 in.
For riders of 5 ft. 2 in. to 5 ft. 6 in. .24 in.
For riders of 5 ft. 6 in. to 5 ft. 9 in. .26 in.
For riders of 5 ft. 9 in. to 6 ft.28 in.

Now, this is another case of "stretching the point"—of the toe!—for no person who wants to ride well and easily could ever do so if he or she took this table as gospel. Taken as a general rule, a man's leg is half as long as his body; therefore a man of, say, 5 ft. 8 in., should, according to this, have a 26 in. frame. Let us see how it works out. Frame 26 in., cranks 7 in., saddle 3 in.; total, 36 in., as against a leg length of 34 in.

Of course, by stretching his foot, he can reach the pedals with the front part of it; but can he ride the bicycle properly? Most emphatically not! We have also taken the height of the saddle from the seat pillar, when the latter is at its lowest, as 3 in., but this means a small saddle only, and if he goes in for a really comfortable seat, and "comfortable" saddles invariably run an inch or two higher, he would scarcely reach the pedals with the tips of his toes.

So we act the role of a constructive critic, and offer to the trade with all humility the following table of suitable frame lengths:

Height of rider.	Suitable size frame.	Crank size.
5 ft. to 5 ft. 2 in.	20 in.	6 in.
5 ft. 3 in., 4 in. and 5 in.	22 in.	6½ in.
5 ft. 6 in., 7 in. and 8 in.	24 in.	6½ in.
5 ft. 9 in., 10 in. and 11 in.	26 in.	7 in.
6 ft., 6 ft. 1 in. and 2 in.	28 in.	7 or 7½ in.

These apply particularly to male riders, for in the case of the feminine cyclist lengths vary considerably, and a woman the same height as a man will often take a frame of a taller size, being built that way. Of course it must be admitted that there is a distinct tendency to ride taller frames among little men and women, but is it wise to pander too much to them?

From riding too tall frames in the "boom" many people gave up cycling, and hence arose the cry for more comfortable saddles, whereas the discomfort ensued from riding too high, for, like beer, there are no really uncomfortable saddles—only some are more comfortable than others.

It is not necessary to be an electrician to understand "The A. B. C. of Electricity." It was written to enlighten those who do not know even "the first thing" about the subject. Price 50 cents. The Goodman Co., 154 Nassau street, New York. ***

SOME POINTS ON BRAZING

Cleaning the Part Before-hand one of the Essentials for Good Work.

Hints on processes in brazing not only have value to beginners in the work, but at times it is possible that even the experienced may gather some information.

While frame building has not the vogue with small shops that it once had, in the aggregate there are a fair number of small dealers who build a bicycle now and then under some special conditions. For that reason and because frame repairs should be carried on as nearly under original conditions as possible, the following hints are given on the basis of building a complete frame.

In all brazing operations it is absolutely necessary that the parts to be joined should be absolutely clean and free from grease. As stock tubing is generally well oiled inside and out, the first thing necessary is to dispose of the oil which is clinging to its surfaces. This is best done by burning, the tube being heated sufficiently to consume or evaporate the oil.

The next thing is to clean the inside of the tube at each end to receive the liner, as this has to be pushed well into the tube. Some difficulty is experienced in getting the surface sufficiently clean down to a depth of three inches or so. This can, of course, be done by wrapping a sheet of emery cloth around a piece of stick or an old round file, but this is a slow and expensive method, and not always certain.

A good method is to turn up a piece of wood to be an easy fit into the tube, coat this with good hot glue, and cover with emery; or, if no emery is at hand, glue on a piece of emery cloth. This should then be put in the lathe chuck. Another method that can be used is to put a piece of tube, having a slot cut in one side, into the chuck. One edge of the emery cloth is caught in the slot in the tube and the rest wrapped round the tube in the opposite way to which it revolves. Either form does the cleaning out quickly and well. The tube is grasped in both hands, the end being slipped over the revolving internal hob, the tube being turned slowly round and drawn slightly backwards and forwards.

Having the ends of the tubes cleaned, the next thing is to insert the serrated liners, these having previously been well cleaned. Before inserting the liners, however, both surfaces should be painted over with a mixture of borax, or borax and boracic acid, mixed with water. The liner should be pushed well into the tube, about half an inch being left between the edge of the liner and the end of the tube. Lay the tube flat on the hearth and put into the end to be brazed a small quantity of spelter mixed with a little of the flux. Turn the blow-pipe or lamp on to

the tube toward the centre, and bring the head gradually down to the liner. When the heat is sufficient to cause the flux to run, commence slowly turning the tube round until the brass begins to melt. Then lift up the end of the tube so as to allow the brass every opportunity of flowing to the edge of the tube, continue turning, and directly the brass is seen to have run down all round the edge of the liner, the tube can be drawn from the hearth.

It always makes a better job if one man directs the heat and revolves the tube, while an assistant watches the brass and flux inside the tube, and, if necessary, feeds it with more flux and spelter. It is very obvious that the heat required to properly braise in a liner, and the heat again required when brazing the tubes up into the complete frame, does not improve the strength of the tube.

The best brazing conditions are attained when the tube may be pushed onto the lug by hand, and when so put on does not show a tendency to turn about in any direction. Such a "hand fit" allows the brass to run round and through the joint in the most perfect manner. When a tube is driven onto the lug by a mallet the cohesion between the lug and tube is so great as to prevent the free flow of brass.

It is generally supposed that the expansion is sufficient to allow the brass to complete the joint, but this is not so, as has been proved by splitting open with hammer and chisel three joints so made. In no instance was there a perfect coat of brass around the joint. It generally showed the brass flowing round the lip of the joint in a complete circle, from which it ran to the bottom in streaks, so that only a total of about one-half of the brazing surface was coated with brass.

In brazing operations of any description many consider it good practice to coat the faces with liquid flux, and to paint the parts which are not to be brazed with an anti-flux, such as powdered black lead and oil, or with Dixon's graphite. The use of such anti-fluxes prevents the flux and brass adhering where they are not wanted; it also prevents scaling, and effects a great saving in files alone.

Cheap Pump Connections.

One of the greatest annoyances that cyclists at times suffer is the breaking through of the short tube which connects the pump with the valve. The cheap pump is, of course, the cause of the trouble. When it is remembered that 30 pounds is the average pressure at which a bicycle tire gives the best results it goes to show that it is not the pressure, but just vile quality, that is at fault. The quality of some of the tubing used at this point would indicate that it must cost those pump makers using it about a dime for a million feet.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

MORE POWER THAN NEEDED

Views of a Foreign Contemporary on Size of Motors for Motor Bicycles.

Some recent experiences of motorcycle races in which very high powered engines were used on motor bicycles lead us to make a few remarks upon the subject which we believe are, at the present stage of transition, advisable. When the motor bicycle was first put on the market it was found that, though the speed on the level could reach a point quite high enough for ordinary safe road riding, yet on the hills considerable effort had, on occasion, to be made by the rider in helping the machine. This has in the course of time been remedied by applying higher powered engines. There is, however, a tendency to still further increase the power of motor bicycles, and that way, to our mind, the danger lies. The motor bicycle, if it is to do the trade any good, must be designed to give good results to the touring cyclist. If motor bicycles of reliable construction and not over-powered can be got into the hands of this class of user, a large and insured trade will result. By catering for the speed man, who wishes to rush about the country at speeds which are neither comfortable nor safe, we think there will be a danger of "choking off"—to use a vulgarism—the larger and far more profitable class of customer. As far as the purely track racing machine goes, over-powering does not so much matter. It rests with the riders whether they are willing to risk their necks in getting up enormous speeds, the only limit to which is the ability of the rider to keep the machine on the track. That limit will be reached some day, and when it comes a very painful episode will be added to the history of artificial racing on the track. Of the utility of these exhibitions we have many doubts. The thing can be overdone, and we are very much afraid it is being overdone. Let us rather keep down to sensible speeds and devote our attention not to constructing the fastest bicycle, but the most simple, most economical, and therefore most efficient. In that way we may economize effort and more quickly get to that stage, toward which we are all working, when the motor bicycle will be a perfectly safe machine to put in the hands of the complete novice—in fact, nearer to that millennium looked forward to by Joe Pennell, when even he can take a motor bicycle across Europe without any trouble or adjustment.—(Cycle and Motor Trader.

Winning in England.

It is hard to down the English prejudice against coaster-brakes as against their combination of free wheel and hand applied brakes. But cumulative evidence shows that their hand tiring method on long coasts is giving way to the more desirable coaster-brake.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

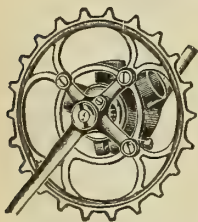
Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

**"D. & J." HANGERS**

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

—AND—
The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY

THE NATIONAL CEMENT & RUBBER MFG COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN

NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.**WANTS AND FOR SALE.**

15 cents per line of seven words, cash with order.

FOR SALE—Brand new latest model Marsh
Motorcycle, \$125. E. H. CORSON, New Eng-
land Agent for Merkel Motorcycle, 100 Boylston
St., Boston.

WANTED second-hand motor cycle for cash
cheap. Address W. P. J., Care Bicycling
World.

FOR SALE—\$7.00 Hartford Gas Vulcanizer
nearly new, 4 moulds, Raw stock and friction
cloth. WALDEN BROS., Plainville, Mass.

The Only Tires Fit For
Motor Bicycles—

**GOODYEAR
DETACHABLES****GOODYEAR TIRE & RUBBER CO. AKRON, OHIO**

You all know what the diamond stands for among
precious stones. You can't well afford
not to know that

D-I-A-M-O-N-D-T-I-R-E-S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.**THE CROSBY COMPANY,**

BUFFALO, N. Y.,

Sheet Metal Stamping.**TO THE LIVE DEALER**

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

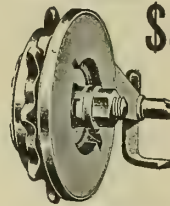
Address.....

**ELWELL
EUROPEAN MOTOR CYCLE TOURS.**

England and France, August 20, 1902.

Great Britain and the Continent starts June, 1903.

F. A. ELWELL, 58 Prospect St., Waltham, Mass.

**\$3.00 Coaster Brake****FITS ANY HUB.**

Screws on in place of the
usual sprocket. Anyone can
apply it. For free booklet and
particulars, address

Canfield Brake Co., Corning, N. Y.

ALL ROADS ARE EASY WHEN THE

**STAR
BALL
RETAINER****IS USED.**

With millions in daily use, it has stood the test for
more than five years, and is adaptable to ball bearings of
any kind.

If you are users of ball bearings we would be pleased to hear
from you and mail you our catalog with the latest information,
which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

Wolff-American Bicycles.

STEARNS BICYCLE AGENCY,
General Distributors,
SYRACUSE, N. Y.

THE BICYCLING WORLD

The Week's Patents.

704,901. Bicycle. Fernando C. Moore, San Bernardino, Cal. Filed Sept. 13, 1901. Serial No. 75,286. (No model.)

Claim.—A steering fork, comprising a fork crown, a tubular stem extending upward from the centre thereof, studs pendent from the lower side of the crown, tubular fork blades slidably receiving said studs, a crown plate serving as a yoke for the fork blades, a tubular stub extending upward from the centre of the crown plate and slidably fitting in the fork stem, springs surrounding the pendent studs and interposed between the fork and fork plate, and a jacket or casing connected with the fork crown, and having a body portion, a bottom engaging the under side of the crown plate whereby the upward movement of the studs within the fork blades is limited, and pendent cuffs embracing the fork blades.

705,100. Combined Hub and Brake for Motor Vehicles. Frank Le Flem, Philadelphia, Pa. Filed Feb. 28, 1901. Renewed Dec. 16, 1901. Serial No. 86,038. (No model.)

Claim.—1. In a motor driven vehicle hub, a stationary axle secured in the frame of the machine, a motor driven sprocket wheel journaled upon said stationary axle independent of the vehicle wheel, a frictional surface formed upon the inner face of said motor driven sprocket wheel, a frictional surface secured rigidly to the opposite end of the stationary axle, a sleeve arranged upon the stationary axle, a barrel or outside shell of the hub journaled upon said sleeve, frictional surfaces formed upon each end of said barrel, and means under the control of the rider for causing said frictional surfaces upon the barrel to come in contact with either one of their opposed members, or to remain out of contact with both, substantially as described and for the purpose specified.

705,314. Carburetter. Francis C. Balek, London, England. Filed Nov. 5, 1901. Serial No. 81,270. (No model.)

Claim.—1. A double acting feed device for use in petrol engines comprising a flexible diaphragm forming the bottom of the suction chamber and having a spout, petrol being intermittently fed into the suction chamber first during the lift of the diaphragm and by reason of the suction action of the piston, and secondly by the return of the diaphragm to its original position as the suction action ceases.

705,357. Combined Muffle and Mud Guard for Motor Vehicles. Robert M. Keating, Middletown, Conn., assignor to the R. M. Keating Motor Co., Middletown, Conn., a

corporation. Filed Dec. 23, 1901. Serial No. 86,937. (No model.)

Claim.—1. A combined mud guard and muffle for motor vehicles, composed of a front section consisting of a hollow cast-metal tube provided with means for attachment to the frame and for coupling to the engine exhaust, and a rear section consisting of a curved sheet-metal tube connected to the front tube by a suitable joint, substantially as described.

TRADEMARKS.

38,629. Calcium Carbide. Electro Lamp Co., New York, N. Y. Filed Nov. 8, 1901.

The word "Electrolite." Used since December, 1900.

Bicycle Motors, \$50.



Mention this paper.

Bicycle motor castings, \$10. A complete line of small gasoline motors and set of castings from 1/4 to 3 horse power. For stationary, automobile or marine purposes.

A 2-cent stamp gets our catalogue.

STEFFEY MFG. CO.,
2720 Brown St., PHILADELPHIA, PA.

Traveling Salesman Wanted.

Manufacturers of a standard sundry have a good opening for the right kind of man.

Address R. F. W.,

Care BICYCLING WORLD

"PERFECT"



OILER.

For High Grade Bicycles. The best and neatest Oil in the market **DOES NOT LEAK.** The "PERFECT" is the only Oil-r that regulates the supply of oil to a drop. It is absolutely unequalled. **Price, 25 cents each.**

We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W 23d St., NEW YORK

PEOPLE LAUGH

at the old two-wheeled velocipedes of the 60's; by common consent and rightly they are dubbed "boneshakers." But very many of the same people are today riding bicycles that are about as boneshaking as any that ever existed.

The rigid frame is easily

The 20th Century Boneshaker.

There is but one way to remove its boneshaking qualities—to fit it with a

CUSHION FRAME

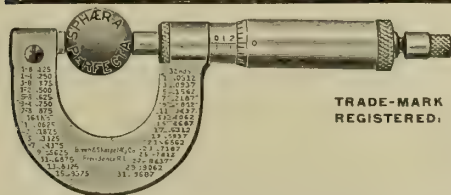
Tens of thousands have already realized the fact. All others who ride bicycles should realize it, and, we believe, will do so in time.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.



TRADE-MARK
REGISTERED.

STEEL BALLS

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

Bicycle Dealers,

WRITE US FOR CATALOGUE OF OUR LOW PRICE

Cash Registers and Fire-Proof Safes.

You will make more money selling these two lines in the winter months than anything else you can handle.

CATALOGUES FREE.

E. P. BLAKE CO.,

57-59 Sudbury Street,

BOSTON, MASS.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburgh
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.



The Authority of the Cycle World

RELIABLE NEWS

ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.

Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Through all Bookshops and Newsagents or from the
Publishers

ILIFFE & SONS Limited.

3, St Bride Street, London, E.C.

and HERTFORD STREET, LONDON

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect June 15, 1902

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	8.25 "
" Detroit		3.15 P.M.
" Chicago	11.50 "	

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars
running through to Chicago.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines. A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

THE BICYCLING WORLD

FOUNDED 1877

and MOTORCYCLE REVIEW

In which is incorporated "THE WHEEL" (New York) and the "AMERICAN CYCLIST" (Hartford)

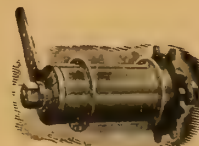
Vol. XLV.
No. 19.

New York, N. Y., U. S. A., Thursday, August 7, 1902.

\$2.00 a Year.
10 Cents a Copy.

WHEN

THE **Barwest**
Coaster Brake



is applied to a bicycle the quality of that bicycle is instantly increased.

The Barwest is simply another term for quality and for quality that counts.

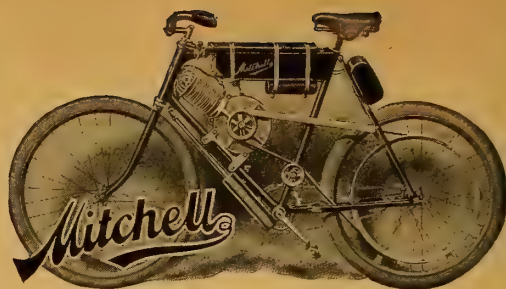
Are you as well acquainted with it as you should be?

BARWEST COASTER BRAKE CO., 83 Chambers St., New York

PACIFIC COAST DISTRIBUTORS: Phil. B. Bekeart Co., 114 Second St., San Francisco, Cal.

ALWAYS FIRST

THE MITCHELL MOTOR BICYCLE



1st to establish 1000 mile road record 54.59.30.
1st in appearance and control, Jubilee Parade, July 12th.
1st to make long overland trip — Milwaukee, Boston, New York, 1325 miles.

1st in anyones thoughts when Motor Bicycles are mentioned.
1st in Reliability, Durability, Simplicity.
1st in Prompt Shipments, Exclusive Agency, Co-operation, Protection.

FIRST TO ARRIVE IN THE KLONDIKE.

DON'T SKIP THESE EXTRACTS

THE DAILY KLONDIKE NUGGET, Dawson, July 14th, says:

"The appearance Saturday afternoon of a man sailing up First Avenue at race-horse speed on a bicycle without doing any pedalling or otherwise exerting himself, almost gave the old timers, who had not been outside for a number of years, the heart disease. The machine was a MITCHELL MOTOR BICYCLE, owned by D. A. Shindler and manufactured by the WISCONSIN WHEEL WORKS, Racine, Wis., U. S. A. The cost laid down, freight and duty paid is \$280.00. It is not improbable that THIS MODERATE COST with the improvement of the territorial roads will soon bring them into general use among all classes of business and professional men. Their first cost being no more than for a good horse; cost of maintaining, nothing when not in use, and less when pushed to its utmost, notwithstanding

the high cost of gasoline. For getting over the country quickly especially when the roads are good there is nothing that equals the motor bicycle. One can go to Gold Run in one and a half hours and to the Forks in twenty minutes. If gasoline were distributed along the route the trip to White Horse could be made in the winter time in a day and the terrors of distance almost annihilated."

THE MORNING SUN, Dawson, says:

"The Mitchell Motor Bicycle, the first of this style of machine, has arrived in town. It is all off with the sour dough now. No more will the old timer reach the scene of the new strike first. His only chance lies in cutting down trees to block the way."

OUR No. 10 MOTOR BICYCLE CATALOG — THE FINEST EVER — CAN BE HAD FOR THE ASK.

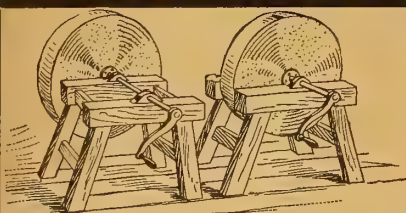
The Mitchell Agency

BICYCLES,
MOTOR BICYCLES,
AUTOMOBILES.

Means a Profitable Agency

Manufactured by WISCONSIN WHEEL WORKS, Box W, Racine, Wis.

See samples at following General Agencies:—HENRY VAN ARSDALE, 7 & 9 Warren Street, NEW YORK CITY; GEO. S. ATWATER, No. 8 Merrimac Street, BOSTON; WHIPPLE CYCLE COMPANY, No. 260 West Jackson Boulevard, CHICAGO; MITCHELL, LEWIS & STAVEL CO., PORTLAND, ORE.; SMITH & ZIMMER, MINNEAPOLIS, MINN.; H. G. FITLER, 204 North Broad Street, PHILADELPHIA; J. H. ISHAM, 542 Ellicott Square, BUFFALO, N. Y.; RAWLENS IMPLEMENT CO., 200 S. Charles St., BALTIMORE; COLUMBUS AUTOMOBILE EXCHANGE, BOSTON; HARRY GEER, 1017 Pine St., ST. LOUIS; THE BRUNETTE CO., SAN JOSE, CAL.; Coast Agents; F. W. M. ROBINSON, 72 Hall St., SPRINGFIELD, MASS.



No. 1 (Bicycles) No. 2 (The Racycle)

Many thousand more
RACYCLES SOLD in last
3 years than any other
high grade bicycles.

Bearings under Crank Centers,
Sprockets in between Bearings,
No Leverage from Cranks,
No Side Pull on the Chain.
Mechanically Perfect.

No RACYCLES Given Away, Loaned, or Consigned. No Racing Teams Hired for Notoriety

RACYCLES

Ride further and faster, with
27 per cent. less pressure,
than any other bicycles.

America's Most Expensive Wheel.

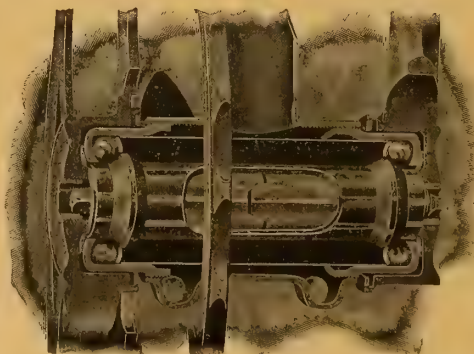
THE RACYCLE

Differs From a Bicycle.

THE HEART
OF A
BICYCLE



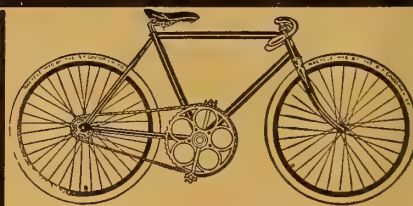
IS ITS
CRANK
HANGER.



NO OIL CAN REQUIRED.

Send for Prices and Catalogs.

THE MIAMI CYCLE & MFG. CO.
MIDDLETOWN, OHIO, U. S. A.



RACYCLE,
Pacemaker Model No. 70.

THERE ARE NO CHEAP
RACYCLES.

Wide Bearings easily Adjusted.
Direct Pull on the Shaft.
Absolutely Dust Proof.
Magazine Self-Oiling.
1-4 Less Pressure on Bearings.

SECURE THE LABOR SAVING
RACYCLE.

ALL BICYCLES ARE ALIKE.

RACYCLES

Only wheel that saves the
rider's strength. Self-oiling
hubs, pedals and crank
hanger.

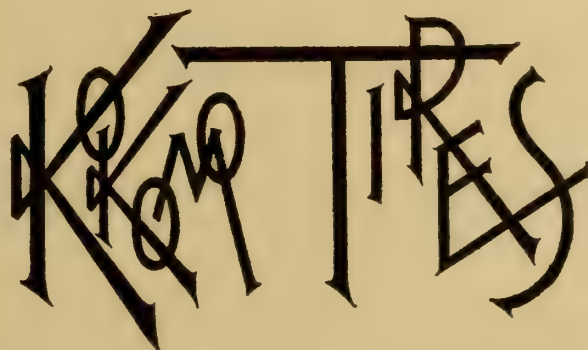
THE BEST PRICE TO PAY FOR TIRES

is

the price

of the best tires,

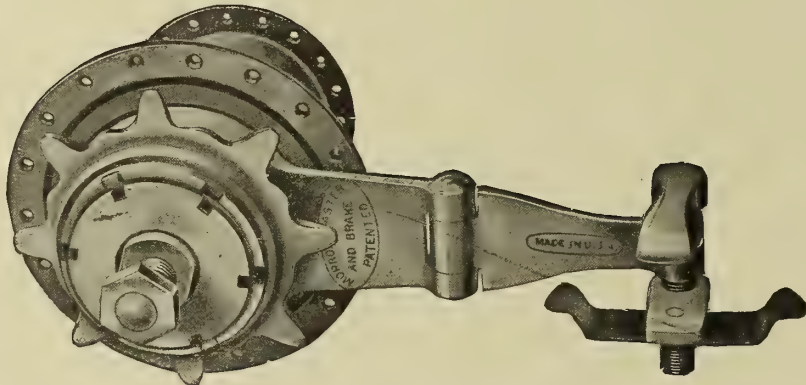
and the best tires are



“How good,” not “how cheap” or
“how many,” is the policy that domi-
nates their manufacture. What’s the
policy of your establishment?

KOKOMO RUBBER COMPANY,
KOKOMO, INDIANA.

The MORROW



has brought and is bringing

More Pleasure to the Rider
and
More Profit to the Dealer

than any cycling device produced in the last decade;
and both the pleasure and the profit are the satisfac-
tory sort—the permanent sort. It is the one article
that stands high above all else in the market.

ECLIPSE MFG. COMPANY,

ELMIRA, NEW YORK.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, August 7, 1902.

No. 19

APPLIES THUMB SCREWS

Keim Asks That Boston's Much Crisscrossed Jobbing House be Adjudged Bankrupt.

The much involved affairs of the much involved United Supply Co., Boston, are to be given another airing in the courts.

John R. Keim, of Buffalo, is responsible for again bringing the concern into the public glare. His action takes the form of an application filed in the United States District Court in Boston on Friday last to have the United Supply Co. adjudged a bankrupt. Mr. Keim's procedure grows out of the judgment for \$2,877.97 which he recently secured, and which remains unsatisfied.

As a basis for his petition Keim represents that on April 3 and 4 last, and while insolvent, the United States Supply Co. committed an act of bankruptcy by transferring property to Anna F. Pratt, Daniel S. Pratt and George R. Stetson, administrator of the estate of Anna P. Hartley and George F. Kehew. If the application is granted it will, of course, result in the return of any moneys which the alleged bankrupt may have paid out during the last four months.

If the court goes into the history of the company it will find many twists and turns that have fairly mystified the trade.

Since the time George F. Kehew & Co. and the Elastic Tip Co. consolidated, under the title of the United Supply Co., it has been a difficult matter to discover exactly who was who. First, it was announced that the Equitable Distributing Co. had taken over its stock and affairs. Later this was denied, and in due course the property was made over to Jesse B. Eccleston, of Buffalo, and without his knowledge. The Pratt-Stetson interests, which are identical with those of the Elastic Tip Co., challenged this transfer, and asked the courts to appoint a receiver for the many jointed United Supply Co. Hardly was the fact published before the matter was settled some way, and while the trade was still trying to fathom the many moves and counter moves the concern was transferred to the very people who previously had applied for a receiver.

Will Flake French Motors Here.

The Clement bicycle motor, which has had a considerable vogue abroad, will make its appearance on the American market in time for next season's trade. Arrangements for its manufacture are already well advanced, a factory of considerable proportions having been leased at 350 Sheldon street, Hartford, Conn., and W. G. Allen, of that city, having been named as manager. Machinery is now being installed. The makers will operate under the title, The A. Clement Cycle Motor and Light Carriage Co. The motor, which takes its name from France's largest cycle manufacturer, is of 1¼ h. p., and is distinguished chiefly by an outside fly wheel. It is claimed to be light enough for application to any ordinary bicycle.

A. B. C. Securities Again Active.

Last week saw a resumption of active trading in A. B. C. securities. Common was dealt in to the amount of 8,100 shares at 6½ to 7%, closing at 7¼, with a net gain of 1¼. Preferred shares figured up to 4,600 at 18% to 20¼, the latter being the closing figure, a net gain of 1¼.

On Monday of the current week 3,000 common showed a net gain of ¼ over Saturday, while preferred, with only 200 dealt in, dropped off ½. Tuesday trading was confined to common, 2,600 making the trading, with a net loss of ½. On Wednesday a further loss of ¼ was registered on sales of 2,000 common, trading in preferred again being absent.

Minneapolis Association Incorporates.

The Minneapolis Cycle Trade Association has been incorporated, and last week filed its articles with the register of deeds. The first officers are as follows: President, Samuel A. Parker; vice-president, Joseph L. Menard; secretary, Oscar Fenstermacher; treasurer, Frederick Roach; directors, H. S. Haynes, S. A. Johnson, John N. Johnson and A. E. Green.

All Licensees "Signed Up."

Under their new terms the Single Tube Bicycle and Automobile Tire Co.—the owners of the Tillinghast patent—have finally signed up all the old licensees. For a while there was promise of a disturbance, but this has been happily avoided.

DON'T KNOW WHO'S WHO

Two Bundy Companies so Intermixed That Their Winding-up is a Problem.

Just where the line should be drawn between the Bundy Lamp and Light Co. and the Bundy Lamp and Gas Co., Elmira, N. Y., is proving a matter of concern in the final winding up of their affairs.

According to one contention, the Bundy Lamp and Light Co. ceased to exist on July 1, 1901, at which time it was succeeded by the other company, which in turn was closed up on February 1, 1902. The former was a New York, the latter a New Jersey corporation, and the stockholders were about the same in each. J. W. Bowman, secretary of both companies, who engineered the deal by which one gave place to the other, is of the opinion that the former company is out of existence. Attorney Thurston, who nominally represents both companies, is of the opinion that the contract which was to lead up to the organization of the second company was never carried out, and therefore there is no Bundy Lamp and Gas Co., as a matter of fact. Certain it is there was no stock issued for the latter, and its only result seems to have been trouble from the days of its birth, providing, of course, it was ever born, which, as above stated, is denied.

Anyhow, claims piled up against both companies until the total is now \$7,000.04. When the first claim was put in on a judgment against the first company and execution placed with the sheriff to serve, he was advised of the snarl of affairs and insisted on a bond. None forthcoming, the matter rested for a time.

Matters were in this state when they were precipitated by claims against Bundy Lamp and Gas Co. for services and money expended. These executions were placed in the hands of the sheriff, who was advised to wait until the return to town of Attorney Thurston. The opposing attorney declined to wait, and the levy was made, the goods not being removed, but placed in the hands of a caretaker.

When Attorney Thurston returned he suggested to the sheriff that inasmuch as he held executions against both companies and the property surely belonged to one or the other, he would make a sure thing of getting the real owner by making a levy on all the executions held by him. This the sheriff has done, and so stands the matter at present. It will now be possible to carry the matter into court and ascertain who really does own the property.

INCREASE OF EXPORT

Fiscal Year Closed With Favorable Figures
—Canada and Philippines the Dark Sports.

Not only did June squeeze through with an increase of exports, notably to Japan, but it roounded out the fiscal year with an increase also, one of \$111,768.

While the records of the government's fiscal year are not uninteresting, it is the totals for the calendar year which are the ones of real importance.

Accepting the figures as they are, however, the comparisons are instructive, and aggravating. With substantial gains in the United Kingdom and in France, Germany and the European countries generally, and in Japan, Australia, Africa and nearly all the other directions in which large purchases rule, the increases are offset by heavy losses in constantly retrograding North America. The only other considerable loss was in the gorged Philippine Islands.

Of the increases in unusual places that in China is the most significant, and, proportionately, the largest.

The record for the month and for the year follows:

Exported to—	June—		Twelve months ending June—		
	1901. Values.	1902. Values.	1900. Values.	1901. Values	1902. Values.
United Kingdom.....	\$71,736	\$53,194	\$463,063	\$437,128	\$460,782
France	7,951	9,861	238,616	162,828	207,180
Germany	12,690	8,010	415,216	199,398	305,156
Other Europe.....	40,935	27,462	746,574	505,483	582,433
British North America.....	20,418	14,400	380,891	303,372	164,073
Central American States and British Honduras	165	234	2,664	5,175	4,688
Mexico	1,368	2,816	24,030	20,585	23,472
Santo Domingo.....	5	265	329	489	1,058
Cuba	1,161	557	150,723	14,161	16,592
Porto Rico*.....			2,745		
Other West Indies and Bermuda.....	3,437	4,415	53,276	51,973	50,685
Argentina	613	321	161,258	24,653	9,965
Brazil	1,115	502	30,812	10,427	5,683
Colombia		68	6,327	612	1,049
Other South America.....	1,676	984	63,713	32,538	24,802
Chinese Empire.....	4,788	1,022	29,151	20,095	59,386
British East Indies.....	9,491	11,678	105,694	61,856	54,939
Hong Kong.....	271	375	8,386	9,252	5,279
Japan	26,386	57,398	245,866	252,200	270,730
British Australasia.....	13,384	24,528	243,007	207,740	216,471
Hawaii*			52,519		
Philippine Islands.....	5,924	5,292	24,197	72,469	21,781
Other Asia and Oceania.....	1,824	1,886	43,351	24,235	25,075
Africa	11,107	11,746	60,375	98,830	116,164
Other countries.....	50		366	305	129
Totals	\$236,495	\$237,014	\$3,553,149	\$2,515,804	\$2,627,572

*Now American possessions and no longer included in statistics.

For Truthful Advertising.

The Massachusetts Legislature has framed a law providing for the punishment of those guilty of making fraudulent representations in their advertisements. Every citizen of the Old Bay State who imagines himself swindled by an advertiser may file information with the prosecutors.

For Window Dressing.

The employment of the incandescent lamp for the display and illumination of shop windows containing light goods is generally considered safe, but several experiments that have recently been carried out prove this contention to be a fallacy. A number of 16 candle power incandescent lamps were enveloped in raw cotton, and at the end of a few minutes the material commenced to smoke. Directly a draught of air, such as is caused by the opening of a door, came into contact with the cotton, it burst into flames, and the bulb of the incandescent lamp immediately collapsed. Investigation as to the cause of this peculiarity showed that the thin glass shell of the bulb of the lamp softened under the influence of the heat gathered by the cotton from the incandescent filament, and when the draught of air came into contact with the lamp the softened glass caved in under the air pressure, so that he filament fired the glowing material. In view of these interesting experiments, caution should be observed not to place cotton or similar fabrics too near an incandescent lamp, as is often done for decorative effect, otherwise great risk of fire breaking out is incurred. The liability of combustion from this cause is further accentuated where incandescent lamps covered with a colored varnish are employed, as the varnish affords a stronger incentive to combustion.

Book Worth Buying.

Conservative estimates reckon that 97 per cent of motorcycle troubles are electrical troubles. At 50 cents per copy "The A. B. C. of Electricity" should be, therefore, grand value for the motorcyclist. For sale by the Goodman Co., 151 Nassau street, New York.

HIS INSTALLMENT PLAN

How one Dealer Handles the Vexed Subject
and Without Incurriug Ill Will.

In discussing the subject of selling bicycles on small payments to people of moderate means, a dealer who has worked up a very large business in this line, in fact, one who prefers this class of business to all others, and frankly says so, recently gave an outline of his views and methods, which are as follows:

"I have found that the first thing to look out for is to see that he is not allowed to run into debt such as he cannot afford, and if he will tell me candidly what and how he can pay I will arrange it accordingly.

"Generally, I find out that \$1 a week is, at the outside, as much as he can manage. So instead of the indefinite 'in a month' business, I have a proper arrangement, and then I tell him quite frankly that, since he requires a longer credit, I shall have to charge him a slightly higher price to allow for interest.

"Now I have never had one instance in which a customer of this class has made a penny of bad debt. Perhaps through long experience I have grown to be a good judge of character, but I believe it pays in business to be straightforward with your customers.

"Where I have my doubts about a man I demand a guarantor, but these cases are rare. I believe that the young man is not naturally a defaulter, but it is just that he often takes liabilities on his shoulders that he is not fitted to incur.

"Then he doesn't like to come around unless he can bring all that he is owing, and as he can't do that he drifts and drifts, till the position gets bad. You lose a customer, because he will never come near the shop, nor will he bring others, while if you adopt the method I have described you gain a man who is a constant advertisement."

Reasons That Concern Riggs.

"While I naturally would be interested to learn the exact number of bicycles equipped with coaster brakes," said Frank Riggs, of the Riggs-Spencer Co., who was in New York a few days since, "I would be more interested to discover the reason why all bicycles are not fitted with them—in fact, I have seriously considered the offering of a prize to bring out the reason, or reasons, if there are any."

Two Unusual Sidelines.

While cash registers and, more particularly, fireproof safes appear unusual sidelines for cycle dealers, the fact that the E. P. Blake Co., of Boston, affirm that they are ready sellers and money makers should be sufficient to arouse inquiry. As the Blake people themselves are in the bicycle business, they should be in position to speak with a show of authority.

TWENTY-ONE WILL START

First Effort to Test Economy of Motor Bicycle Attracts a Big Field.

The fifty-mile motor bicycle economy test, which occurs on the Manhattan Beach track on Saturday next, will prove a much bigger affair than even its promoters, the New York Motor Cycle Club, anticipated.

The entrants number twenty-one, and several others are in prospect, thus assuring a spectacle the like of which has never been seen on a track, to say nothing of the valuable data as to the cost of operating the several horsepower at varying speeds, which is the real purpose of the event. The entrants and the bicycles they will employ are as follows:

Contestants.	Bicycles.	Horse-power.
F. E. Moskovics, N. Y. M. C. C.....	Orient	3
Roland Douglas, N. Y. M. C. C.....	Auto-Bi	1¾
James Farley, New-York.....	Marsh	1¾
N. P. Bernard, Hartford, Conn.....	Columbia	2¼
D. B. Roberts, East Hartford, Conn.....	Columbia	2¼
Frederick Thourot, N. Y. M. C. C.....	Clutch	2¾
A. H. Funke, New York.....	Kelecom	2¼
George M. Holley, Bradford, Pa.....	Holley	2¼
Henry P. Macrery, A. M. C. C., Brooklyn...	Orient	3
George M. Fisher, jr., A. M. C. C., B'klyn...	Orient	2¾
W. J. Cronin, A. M. C. C., Brooklyn.....	California	1¼
Willis F. Seaman, Mineola, N. Y.....	Mitchell	2
J. H. Wise, Mineola, N. Y.....	Orient	2¼
David D. Miller, N. Y. M. C. C.....	Orient	2¼
C. H. Martin, N. Y. M. C. C.....	Merkel	2¼
Frank B. Widmayer, N. Y. M. C. C.....	Auto-Bi	1¾
Walter J. Ziegler, Elmwood, Conn.....	Columbia	2¼
John M. O'Malley, Hartford, Conn.....	Columbia	2¼
E. J. Edmond, New York.....	Auto-Bi	2
A. H. Seadale, N. Y. M. C. C.....	Columbia	2¼
C. G. Arnold, A. M. C. C., Brooklyn.....	Merkel	2

While the medals—gold, silver and bronze—will be awarded for the three bicycles consuming the least gasoline, blue ribbons will be awarded for all non-stop performances, regardless of fuel consumption, but to qualify for any prize competitors must complete the fifty miles within three hours.

A total stoppage of ten minutes will be permitted for the refilling of gasoline tanks and lubrication. That is to say, a contestant may make any number of bona fide stops he pleases for those purposes and for no other, but the total must not aggregate more than ten minutes.

The rules provide that contestants shall not pedal on more than three separate occasions, or to pedal more than one-half lap at any one time. Violation of this rule, of course, carries with it disqualification. The rule, however, does not apply to the pedalling required to start the machines after such stoppages as those provided for. It is also required that all machines be fitted with mufflers.

The contestants will be given a rolling start, being allowed one lap in which to get under way.

Are Repairmen Scarce?

"Do you know, I have come to the conclusion that good repair men—that is, the workmen—are as scarce as they were back in the early eighties," recently remarked an old-time cyclist to a *Bicycling World* representative. "Understand me, I mean that, while there are naturally a great many more repairers, there are but few, if any, more that are away up in their work."

"The causes, however, are entirely different. Back in those days there was not the demand for number, while now there is not the demand for quality. If there was ever a time when bicycle repairers were mechanics in the truest sense of the term, it was during the years from 1890 to 1897. The causes are not far to seek. During those years bicycles were many in trade names, and particularly in the earlier of those years

EFFECT OF CHEAP TIRES

Disgust Leads to Demand for So-Called "Freaks"—Influence That Profits Wield.

"It would surprise you to know the number of calls I have had of late for semi-solid tires—the 'freak' tires, as we have been disposed to call them," said Alex Schwalbach, the dean of Brooklyn dealers, one day this week.

"It has surprised me as much as any one," he went on, "but the fact remains. I think I have had not less than twenty inquiries for them during the past month. Yesterday there were two people asking for them, and to-day two more. Of course, I view the movement as a step backward, and have told every one so, and I do not expect that the demand will attain any considerable volume, but if people want the tires it is my business to sell them, and I purpose putting in stock a half dozen pairs this week."

"How do I account for the demand? Cheap pneumatic tires are responsible for it beyond any doubt. They have given so much trouble that riders have become disgusted and are seeking tires that simply put punctures and other troubles out of question."

"Talk good tires to them? Of course, I do. But some of the riders—the ones that want the semi-solids—have had such a dose of trouble with the cheap stuff, that they are shy of anything in the form of a pneumatic tire."

"There has been an ungodly quantity of cheap tires sold, and it is only the dealer who knows how cheap most of them are. Why, they even have no names on them, and half the time if they are returned to the people generally credited with making them they will deny their own goods. And yet the manufacturers of the standard goods are not wholly blameless for the condition of things. They know that dealers are in business to make money, and yet they permit the profits on their tires and on the cheap ones to remain unreasonably disproportionate. When the retailer can make 100 per cent and more on a pair of cheap tires and less than 33 1-3 per cent on the standard brands, how can the manufacturers of the latter expect dealers to devote themselves to the sale of their product, particularly as the cheap stuff is sold without a guarantee, and so cannot 'come back,' while the reputable article, being guaranteed, inclines riders to believe that they can call on the man who sold them to 'make good' for a practically indefinite period."

Willis Imports Two Novelties.

To his already varied stock E. J. Willis, of the Willis Park Row Cycle Co., this city, has added an imported Ormonde motor bicycle, fitted with a Kelecom motor. He is also bringing over a trailer.

they presented a diversity of construction that brought out all the ingenuity that was in the men who had to fix them.

"For the last few years the almost prevailing similitude of pattern has led many repairers into a narrow groove, which has had a stunting effect. Then, too, the clever ones among them have been tempted to automobile repairing. In the early eighties I took care to see whom I trusted with a repair. In the early 1900s I am doing the same old act over again."

Minneapolis Trade Makes Merry.

The Minneapolis Cycle Trade Association is holding its annual picnic to-day. This outing is a pretentious affair, and quite generally participated in by the trade of both Minneapolis and St. Paul. Baseball, foot and cycle races, and this year, for the first time, a motor bicycle race, are programmed, and in the evening fireworks. Two bands of music accompany the picnickers. The association, which is now four years old, and never more prosperous, has just been incorporated.

Manager Cox of the American Cycle Mfg. Co.'s sundry department is now arranging its lines for 1903. He states that to receive consideration samples and quotations must be submitted not later than September 1.



THE SAME OLD STORY.

PHILADELPHIA, PA.,

May 23, 1902.

NATIONAL CYCLE CO.,

BAY CITY, MICH.

GENTLEMEN:—In June, 1899, you sold me from the factory one of your \$60.00 wheels. There are plenty of cheap wheels for sale here, in fact, they almost give them away; but my experience with your wheels has been such that I would not think of looking further.

No. 15627 has been in constant use, averaging from ten to fifteen miles daily over all sorts of city streets, and all it cost me in repairs is: 35 cents for cone in pedal, 75 cents for two rods through front and rear hubs, 5 cents for two small balls, \$1.25 for new chain, and last spring two new Goodrich tires, the first ones having worn through the canvas, exploding only because of thinness. The wheel runs as easy as ever. This is a record hard to beat.

I do not know whether you have an agency here or not. . If you can sell to me direct, please send circular of 1902 models. Yours truly, JOSEPH J. MAGIN.

A NATIONAL RIDER NEVER CHANGES HIS MOUNT.

NATIONAL CYCLE MANUFACTURING CO., - Bay City, Mich.



That's it—FISK.

THE NAME OF THE BEST TIRE MADE.

A TRIAL WILL CONVINCE YOU.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,

604 Atlantic Ave.

SPRINGFIELD,

40 Dwight St.

NEW YORK,

83 Chambers St.

PHILADELPHIA,

916 Arch St.

WASHINGTON,

427 10th St., N. W.

SYRACUSE,

423 So. Clinton St.

BUFFALO

28 W. Genesee St.

DETROIT,

252 Jefferson Ave.

CHICAGO,

54 State St.

SAN FRANCISCO,

114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00
Single Copies [Postage Paid] . . . 10 Cents
Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, AUGUST 7, 1902.

Effect of Disproportionate Profits.

Aside from the demand for non-puncturable and semi-solid tires, growing out of disgust with cheap pneumatics, which is reported by the Brooklyn dealer quoted in another column, his remarks regarding the disproportionate profits on high grade tires and those tires that are not "on the level" are of uncommon interest to those most concerned.

We know the dealer in question to be a believer in and advocate of quality, but with the market flooded with cheap tires and with the profit on such goods trebling those on the reputable goods, it is naturally difficult for any man to wave away such easy earnings.

The subject of costs and profits is one that will not stand dissection in print, but with the cheap tire fairly rampant and with reputable manufacturers concerned as to the best means of checking the evil, the argument of the Brooklynite is well worth careful digestion. And it can be made to apply

not alone to tires, but practically to all other productions.

We do not undertake to say that profits on high grade goods are too illiberal—that is not for us to say—but when retailers find them so disproportionately that they can earn three or four times as much by selling cheaper stuff, it is time that the manufacturers' forefingers sought their brows.

America's Contradictory Attitude.

According to that usually well informed source, the Irish Cyclist, 85 per cent of the bicycles made in Great Britain this season were equipped with coaster brakes.

It is regrettable that nothing approaching a reasonable estimate of the sort can be even hazarded as regards America's output. Any figure that might be set would scarce deserve to be characterized as a guess. It is due rather to the coaster brake people themselves and to the dealers rather than to the bicycle manufacturers that the demand has attained its proportions, as it hardly will be disputed that the new wheels sent from the factories equipped with coaster brakes constitute a disresponsible minority.

The cycle maker has, of course, catalogued the coaster brake as an "extra" and also, of course, at an extra price. He has done little else to advance its interests, and as is usually the case the listing of the devices at an added price has done little if anything to increase its sale.

We confess our failure to appreciate this attitude. The position of the coaster brake is secure beyond doubt or question, it adds immensely to the pleasure and zest of cycling, and is so generally hailed as a trade fillip that there seems no good reason why its use should not be well nigh universal. Despite the fact America lacks a distinctive coaster brake model, England, on the other hand, is rich in models of the sort.

It is hard to believe that this state of affairs will be suffered to extend beyond the present season. It may appear a tall task, but we are convinced that did the American cycle manufacturer give the coaster brake its full due and not merely weight it down with an extra price, fully 75 per cent of next year's output will be bicycles fitted with coaster brakes.

Good Times and Bad Ones.

The desire to make money is in itself honorable and commendable. We have Holy Writ for it. It indicates ambition, and ambition is the motive power of the world. But

there is nothing in the universe more abhorrent than the mad rush toward wealth by means of crushing and grinding without mercy, riding roughshod over all who may be considered to stand between us and the golden calf.

On the other hand, man is fond of hunting out profound and high sounding reasons for his tribulations, when the absolute cause lies in his own personal weakness and defects of character. How many deep theories have been advanced to explain our losses, our failures to accomplish that with which we have identified ourselves?

As though natural laws did not determine, we take upon ourselves the burden of proof, and seemingly hope, by either cant or whining, to draw forth expressions of sympathy by exploiting syllogisms to take the place of deserved censure and rebuke.

We overlook irrefragable rules of arithmetic, and, moving along the same lines which got the prodigal son in trouble—improvidence—we open our eyes in surprise and our mouths in loud ululations when the simple truth is forced on us that money is scarce and creditors are pressing.

When "good times" are with us it behooves that we prepare for the dull times which will follow from inexorable laws. When one is successful it behooves to learn the plain facts—that money is always scarce when we owe \$2 and have but \$1 in the pocket with which to pay—and that's hard times—and that there is no need of rummaging heaven and earth or calling in the professional political economist to determine our disease when it consists merely of our folly.

Sign of the Live Dealer.

In renewing his subscription to the Bicycling World, Mr. Joseph Holle, one of San Francisco's enterprising dealers adds: "A good bicycle paper is as important and is as necessary as it is to sweep out the store every morning."

What Mr. Holle states is unquestionably true. It can be accepted as a truism that the dealer who displays interest in the publication or publications devoted to his trade is really interested in the business. He is apart and distinct from the man who is interested only in his store. The one is a merchant. He realizes the helpful and broadening value of information, suggestion and the interchange of ideas and opinions. The other is a mere drifter, a mere storekeeper. He lives within himself. He does not live to learn, and usually he stagnates. It is because this class of man is in the great ma-

jority that 95 per cent of those engaged in business fail.

That remark credited to an astute manufacturer bears on the subject and will stand repetition. "Of two agents," he said, "give me the one interested in his trade papers. It's a sure sign of the live man and the intelligent and aggressive one."

We believe that investigation will abundantly bear out the assertion.

Thickwitted Salesmen.

That salesmen are born, not made, has been asserted more than once. Time out of mind the principles of true salesmanship have been harped upon, and enough has been written on the subject to fill huge tomes.

It is doubtful whether any appreciable amount of good is done by all this advice offering. Nevertheless, it is continued, in the hope that here and there store will be set by it and good be thereby done.

One of the first things to be learned by a salesman is never to be taken unawares or at a disadvantage. Weak points in the armor should be looked after closely, and wherever possible repaired. To be nonplussed is a weakness which few salesmen worth their salt will be guilty of; a ready answer will be returned almost without hesitation.

Dropping into the motor bicycle department of a well known store recently we watched the selling methods of one of the crack salesmen.

A prospective customer asked a number of the usual questions, and was answered until he touched on what competitors allege is the vulnerable spot of the machine. He had heard it said, remarked the buyer, that the machine was too—mentioning the criticised feature. Was this true?

Now, it would seem that this question would have been one of those first anticipated, and that a reply would have been ready.

But it proved to be a solar plexus blow, and the salesman sparred for wind for several seconds before he was able to reply at all. Then he admitted that the feature referred to had been criticised, and that there was something in the criticism. Continuing, he remarked that a buyer could not get everything he wanted in a machine, and that after he had used this one for awhile he would not mind the alleged defect.

It is scarcely necessary to remark that the sale was not made.

And yet the salesman, had he known his business, could have met the issue squarely

and robbed it of the greater part of its sting. But he did not know enough to do so, and probably never will learn, for he seemed to be perfectly satisfied with himself when the inquirer walked away.

Waste of Ingenuity.

Any one having an experience dating back any length of time, in looking over bicycle patents can realize that something less than one in the hundred have ever proved their quality in the crucibles of time and sales. To-day a really meritorious bicycle patent is so rare that it stands out with wonderful conspicuousness. So long as present patent office rules and conditions exist, there can be little hope for improvement.

While at times it is the habit to refer to the lax methods obtaining in some foreign countries, Great Britain especially, after all little can be said of our home methods, even by comparison. While the present system prevails, and patents continue to be frequently granted on the ability of the attorney as a phraseologist, just so long will a class of patent solicitors accept fees from clients for searching for anticipations. To discover would mean the loss of patronage, and this class is not eager to find itself out of employment.

Its business is of the mail order class, and through cleverly worded circulars and advertisements it manages to catch in its net many fish, and with them the nimble penny. The postal department of the government has broken up this method in a few instances, but for every broadly heralded success there are many failures to even approach a knowledge of the other methods employed.

One case in particular that comes to mind, and one that was successful in coaxing the pennies from the pockets, directed its efforts toward workmen in all classes of manufacturing. By an arrangement with a factory inspector a large list was secured of names of workmen in various factories and industries. In a cleverly worded letter, addressed individually, the addressed were cited to a few instances where workmen had made fortunes by improving some simple tools or products with which they were in constant touch. It was further shown that possibilities were lying around loose only waiting for some kindly disposed person to pick them up and pocket the profit—and incidentally the way lay through the writer.

That vanity common to man, and the desire to pose as an inventor, were the factors in the human makeup thoroughly understood

by the attorney, and on these strings he played a beautiful tune, melodious and entrancing, and above all profitable to him.

It needs but little to convince man that he is an inventor, he daily sees that he can do something better than it is being done by the other fellow. Because of this, the vast majority of patents are impracticable, and the taking out of these patents is illustrative of the adage about fools and their money. Some of the patentees' ideas would require Sam Weller's famous microscope in order that their novelty and utility might be seen, while others are so revolutionary that the adoption of them into practice would create an upheaval in Mars.

The bicycle has done much in the way of to many improvements in machinery and has advanced ideas in many ways. This at one time became so trite with some writers in other fields that they gave frequent acknowledgement in using the term "bicycle practice" as synonymous of advanced ideas and refinement in working out those ideas.

It is to the bicycle that the manufacturing world really owes its present appreciation of the value of steel tubing. It is also through this same bit of mechanism that enamel as a finish found its greatest appreciation. Pneumatic tires and bearings, with balls to take the thrust, have, as is well known, fuller advocacy because of the same channel of experiences.

The up-to-date pacing motor tandem of to-day is a very different affair from those which were last year considered the "limit." It looks as if the old racing game of over-doing things is going to be done over again, with the difference that from excessively light racing bicycles it will now be excessively powered pacing tandems.

To run a general, non-committal advertisement in a trade paper and expect to get any results is just about as reasonable as it would be to plant a button and expect to raise a suit of clothes.

It begins to appear that the motor bicycle will give the world the mile-a-minute cyclist quite some time before the long looked for two-minute trotter arrives.

Neck-in-the-Woods is going to rule motor bicycles off its streets in order that it may become advertised through the press dispatches.

Pneumatics furnish comfort for the rider, but they are known to tire most bicycles.

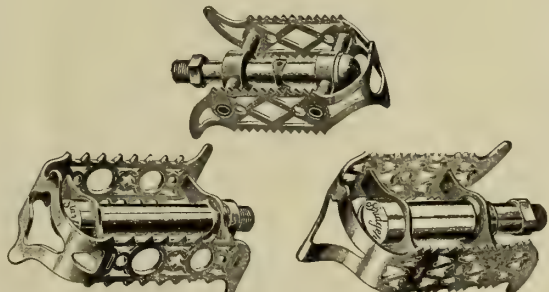
ALL RECORDS BROKEN
FROM 1 TO 43 MILES BY
ALBERT CHAMPION
ON AN
ORIENT RACER
PACED BY AN
Orient Motor Tandem.

43½ MILES, 293⅓ YARDS IN ONE HOUR.

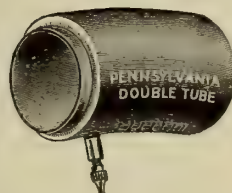
Orients cost more than other wheels, but they are built for speed and durability, and it pays in the end to buy the best. Agents offer other machines because they can make a larger profit. Do not let them make it out of you.

WRITE FOR CATALOGUE OF BICYCLES AND MOTOR MACHINES.

WALTHAM MFG. COMPANY, = = Waltham, Mass.

★	Star	Bridgeport	Record	★
Record	STAR BRIDGEPORT RECORD			
				
	BICYCLE PEDALS.			
Bridgeport	<p>A trial will convince you that B. G. I. PEDALS are <i>by far the best</i> you can buy. Made of the best steel, and carefully inspected. Simple in construction. Perfect alignment of bearings. Standard of excellence in style and finish.</p> <p>USE 1902 MODEL B. G. I. PEDALS.</p> <p>THE BRIDGEPORT GUN IMPLEMENT CO., 313-317 BROADWAY, NEW YORK.</p>			
★	Star	Bridgeport	Record	★

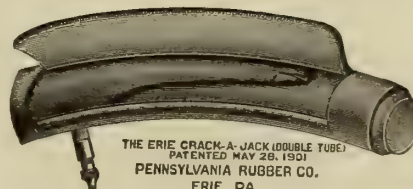
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO

BOSTON
PHILADELPHIA



What Caused the Burst.

"Although I have often heard about the effect of heat on tires, I never had any practical demonstration of it until a few days ago," remarked an old rider to the *Bicycling World* man.

"Starting out for a ride on a tandem, with two men on it, I pumped the tires pretty hard. Upon returning I stood the machine against a post, intending to return in a little while and put it away. It was extremely hot, and the sun was shining brightly, and I noticed, without giving the matter any particular thought, that part of the machine was in the shade. Then I forgot all about it, and did not return to it until evening, when it was time to put it away for the night.

"Upon taking hold of it for this purpose I found that the front tire was flat. This seemed strange, and I made an examination. There was a slit in the side of the tire, nearly three inches long and, of course, there was absolutely no air in it.

"Then it came to me like a flash what had occurred. The front tire had got the full effects of the hot sun, and being inflated very hard it had expanded until the walls of the tire would not stand the pressure. A blow out followed finally, when the limit of endurance had been reached. The rear tire, although just as hard as the front one, had been protected by the shade, and it came out all right.

"Many years ago I had the sun melt the cement which fastened the solid tire of my ordinary, owing to the latter being left in the sun. But I never before had a burst of this kind."

Importance of Keeping Cool.

Keeping cool is largely a matter of temperament, but the bicycle plays an important part also, and unless a good and suitable one it will tend to increase the labor of propulsion. On a summer's day the object of the cyclist is to gain speed with the least expenditure of energy. The modern bicycle is a marvellous transformer of power into speed when worked properly, but its perfect action depends on a multitude of trifles. If a number of these is neglected the work increases considerably, and there is a constant drag on the rider. Clothes light in weight and color and suitable for such pastime as cycling should be worn, the best bicycle ridden, and a slow pace maintained. It is futile to hurry on hot days, because the time saved is more than expended afterwards in changing clothes, cooling down and seeking for a drink which will immediately remove that thirsty feeling.

They Affect Straight Forks.

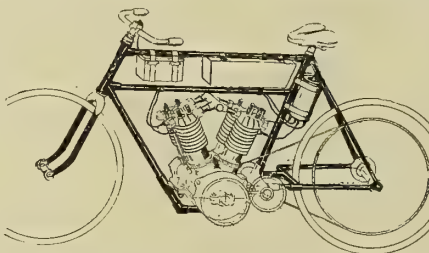
It does not take the youthful generation long to ape their elders. The practice of using machines with straight front forks, followed by nearly all pace followers, is being copied by the aforesaid youngsters. Every little while one is encountered with his forks straight, or as nearly so as rather crude appliances will permit him to get it.

Four Cylindered Racer.

Just at what figure the horse power of racing motor bicycles is going to stop is beyond the ken of the present day motocyclist. In the case of the present illustration, the subject has a notable addition, inasmuch that its makers, the Clement-Garrard Co., are at present content to make a really small motor, $1\frac{1}{4}$ h. p., for ordinary use. The machine is expected to do big things in the way of high speeds, and its stated power, 12 h. p., would certainly point that way.

Considering its power, the general design and makeup appears to be symmetrical in appearance and mechanically good. As here shown, the cylinders are in two pairs, each pair being set tangentially, as were the cylinders of a very early French motor known as the Cyclops, on a common crank case.

The intake valves face toward the centre, and are fed from a bridged union placed at the top of the V-shaped opening between the front and the back cylinders. The exhaust ports are all opposite the intakes, and the



spark plugs are on the same side of the cylinders. The battery is carried on the frame top bar, near the head. One coil is used, with four secondary wires leading from it to the spark plugs. The four-way contact breaker is on the right side of the crank case.

To the motor shaft is fixed a gear driving a pinion journaled in a hanger on the bicycle frame. On the other end of this intermediate shaft is a pulley connecting the rear wheel by belt. The exhaust valve mechanism works on the stricker plan, as suggested by the Buchet motor. That is, in place of pointing the exhaust valve stem down and pushing it up by means of a shoe travelling over a cam on the reducing gear, the stem sticks up through the head and is struck downwardly by a small lever worked by a long rod coming up from the crank case side.

The illustration shows no means for pedalling. Whether it is the intention of the makers to start the machine by running alongside or this lack is the fault of the illustrator, can only be guessed at, as the rear wheel hub shows evidences of a sprocket for a chain.

An Odd Brake.

An odd brake was seen the other day. Two bits of flat iron, slightly curved at the ends, with a bolt through the middle, formed the hold for this novel stopping device on the back forks, while the connection with the handlebar was effected by means of a wire, jointed in the middle with a bell wire angle, which was particularly prominent on the top stay as connecting lever and a bit of chain.

New Uses of Drop Frames.

"Did you ever notice how many drop frame machines there are being ridden by men and boys?" asked the observant rider. "It is remarkable how large the proportion is.

"The phenomena is probably due to two causes," he continued. "The first is that many women and girls have stopped riding, and their machines naturally drift into the hands of their male relatives. Again, this withdrawal tends to 'bear' drop frame machines, and the man or boy who is looking for something dirt cheap in a second-hand machine is much more likely to select one of these. At equal prices he can buy a drop frame of better grade and in better condition than a diamond frame.

"That is my idea of the matter, and several dealers to whom I have talked confirm me as far as the second part of it is concerned.

"There are so many instances of the kind that riders are beginning to lose their feeling of dislike at being so mounted. Where formerly the sight of a man or boy on a drop frame machine would have called forth derisive remarks from their associates, it now goes almost unnoticed. Butchers' and grocers' boys, in particular, are frequently so mounted. They make their order collecting rounds on them, and sometimes deliver small bundles and packages."

Jammed on Brake Until Tire Sizzled.

"What impressed me most was the speed at which I took the lower turn," remarked one of the contestants in a recent motor bicycle track race. "There was a strong wind blowing, and it was at our back when we reached the point referred to. Consequently, when we struck the turn we must have been going at close to a 1:20 gait. I'll confess it was a little too fast for me.

"The first time I came to it, after I got to going right, I was genuinely frightened, and it was plain that something had to be done. The first thing that suggested itself was the spoon brake, and almost involuntarily I jammed that on. Almost instantly there was a smell of burning rubber, and the tire seemed to be fairly sizzling.

"The wheel was revolving at a much faster rate than it ever does on a road, and the cold steel pressing on the tire produced an instant result, and that burning rubber gave me sort of a sickening feeling. I took the brake off as soon as I could. After that, on approaching the turn, I checked my speed by stopping the sparking, and this was much better."

Short Cranks on Pacing Machines.

High gears and short cranks combine to make the lot of the motor pacing tandem riders an easier one than it would otherwise be. Four out of five machines seen on the track to-day have cranks of from two to four inches in length. With these the men are able to take it comparatively easy after the motor gets to going right, as then they do not have much more to do than to follow the pedal with their feet. In starting, however, they make up for it, as with the small leverage it takes hard pushing to get the bulky machines going.

MOST WISE JUDGE

Decides That the the Buyer of a Motor Bicycle Must Learn Things.

The question of who is at fault necessarily comes up at times between the seller and the buyer of a motor bicycle. As a rule the seller gives the other party to the transaction not only every benefit of doubt, but yields on points where there can be no doubt that the buyer is entirely in the wrong.

That this courtesy should be taken advantage of on the part of the purchaser to show that something must have been wrong is not unusual in general, but is provoking in the extreme. A case in point, and one of general importance as showing how one judge, at least, viewed the matter, was recently heard in England. The plaintiff sued a well known motor bicycle concern for the recovery of the amount paid on account of a motor bicycle delivered to him by the defendants, who entered a counter claim for the balance due them on the purchase price of the machine.

After the usual proceedings of trying the machine, paying the deposit and delivery, the plaintiff wrote complaining of certain details. The defendants exchanged the machine for a new one, which was also subject to complaint. The complaints were that the driving belt touched the mud guard, that the insulating plate of the interrupter was broken, and that the brake pads touched the rim when the brake should have been off. On cross-examination plaintiff admitted that he knew nothing about motor bicycles, and that he was a complete novice in regard to them.

An engineer gave so-called expert evidence on behalf of the plaintiff, and said that the pulleys were out of alignment, the interrupter plate was broken and the brake touched the fellow. He did not consider that the machine was sent out properly. In reply to a question, he gave it as his expert opinion that the bicycle as it was could not be ridden.

The judge than had advantage taken of the adjournment for luncheon to have the experts on both sides actually test the machine. On reassembling the so-called engineer admitted that he had not ridden the bicycle, and that he thought it unridable. Asked if he had failed to couple up the belt—which had been taken off for convenience in wheeling the machine—he said that he had really not made any serious endeavor to do so.

A well known motocyclist was then called on behalf of the defendants. He said that he had inspected the machine at the plaintiff's house, and found that the interrupter plate was broken, this apparently having been done in shipping the machine. It was not a material damage, and would not prevent the machine being ridden. The brake pads were certainly touching the rim, but this was entirely due to the machine having

been wheeled backward. Witness put the pads right with his fingers.

The pulleys were in practical alignment. Witness had ridden the machine when the engineer gave up the task, and had started it at the first turn of the pedals. In fact, the motor fired before he mounted the machine, and while wheeling it with the compression tap open. The machine ran beautifully.

In his opinion there was nothing the matter with it, except the broken plate of the interrupter, which could be put right at a very trifling cost. Witness thought that, as the machine had not been ridden for six or seven weeks, and as the accumulators were not therefore fully charged, owing to the inevitable leakage which must take place, it was not a fair test, but that, in spite of this, the machine had started perfectly. He did not think that there were many motor bicycles which would have done so under the circumstances.

The judge said that he did not wish to hear

give judgment for the defendants, with costs. This, of course, covered the counter claim for the balance due to them by the plaintiff.

The defendants said that they were prepared to put in a new insulating plate to the interrupter if the plaintiff desired it, although this was not a damage for which they were responsible. Still, they were prepared to do all that they could for plaintiff, which had been their attitude from the first, when they gave him this machine in place of the first one supplied, although the first machine was absolutely faultless.

Made for one Carried two.

"Come and take a ride," was the invitation extended the *Bicycling World* man. "On what?" he returned, eyeing the machine dubiously. It was a motor bicycle, a single, and as its rider turned the scale at considerably over 200 pounds, he could not figure out just how it was to take another passenger.

"Oh, there is plenty of room," was the response. "Just get on the saddle with me."

Still doubtful, the invited one approached, and as the first speaker straddled the machine it was seen that there was a few inches of saddle left vacant, in spite of the rider's breadth of beam. So, with many misgivings, he slid on, and clasping his vis-a-vis tightly around the waist he resigned himself to whatever might happen.

After pedalling a few strokes the explosions began to come regularly, and the machine started off at a good pace. The feeling was not bad. The seat seemed to be secure, the machine ran smoothly and carried its double load without effort. Even a slight grade encountered affected its speed but little.

"Wasn't that all right, now," he was asked when the machine was brought to the starting place again. And the *Bicycling World* man was obliged to admit that it was.

League Action Bears Fruit.

The action of the League of American Wheelmen in formally recognizing motocyclists and in promising to work for their interests is already bearing fruit. The New York Motor Cycle Club, of this city, and the Alpha Motor Cycle Club, of Brooklyn, both held meetings this week at which action was taken that will in all probability result in each organization joining the League in a body, and thus entitle them to representation on the State Board of Officers.

Nearly 46 Within the Hour.

If things continue, fifty miles within the hour does not appear impossible. Robl's performance in Paris on May 16 of forty-five miles 152 yards was almost staggering, but, wonderful as it was, Linton kept hammering at the record, and on July 20, on the Buffalo track, Paris, finally broke it. He did the trick in a match race with Bonhours, bettering Robl's figures by 865 yards, or forty-five miles 1.017 yards.



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

any more witnesses, and the plaintiff's counsel proceeded to address the court at length on behalf of the plaintiff. He pointed out that this was the second machine that the plaintiff had had, and that, although his original order was placed some time in March, he was still without a motor bicycle.

The judge, intimating that he did not wish to hear counsel on behalf of the defendants, said that there could be no doubt that all the points raised by the plaintiff were details and trivial, and that all of them were pure matters of adjustment.

Had any one heard of an absolutely perfect motor? He ventured to say that no expert would say that such a thing existed. The motor trade, in its present state, could not be reasonably expected to reach perfection. People who bought motors should be prepared to learn something of their construction.

In his opinion, and he went entirely upon the evidence of the expert witness who had tried and ridden the machine, there was no structural defect, and he must, therefore,

COASTING PERCENTAGES

Some Figures Given by a Rider who has Been Keeping Records.

Up to the present time I have seen nothing authentic as to the distance one is capable of running free, says a writer in *Cyclist*. By authentic, I mean facts which are capable of being proved. I have read in many of the cycling papers that from 30 to 40 per cent of our running should be done by the free wheel, and I have had it stated to me that this was about the amount that we ought to do. On the other hand, the more cautions have said that 30 per cent is about the thing.

During the last six months I have, according to my lights, been making very careful experiments to ascertain what is the correct proportion; and in giving these results—which, I think, are the first that have been published—it is instructive to see how far the amounts claimed agree with those that I have obtained. It is necessary to briefly explain how I am able to arrive accurately at my figures.

The machine I ride is fitted with a hub two-speed gear, free wheel at will—that is to say, that there are three notches on the quadrant for shifting the gear, the two outer ones being for high and low gear. The middle one allows the hub to run entirely free on a set of ball bearings, and is, in my opinion, as nearly frictionless as can be. I further confirm this statement by saying that on every hill I can pass all classes of riders, thus proving to my satisfaction the ease with which the hub runs.

I have arranged a cyclometer on the hub of the back wheel, and with a striking bolt attached to the backstays. This striking bolt is moved in and out of position according to the position of the lever with the quadrant. Thus at the high and low gears the bolt is clear of the star wheel of the cyclometer, but in the middle position (free wheel) it engages with the star wheel. Thus the distance free wheeled is accurately measured.

In order to thoroughly test the advantages of the free wheel I have ridden over my known distances under various conditions, and a number of times, and the cyclometer on the front wheel has, within a small percentage—so small as to be valueless—indicated the same distance each time; but the free wheel cyclometer has varied considerably owing to the state of the roads, the weather and the wind being either with or against the rider. So much so has this latter part affected my riding that I have instances where I have had to pedal hard down a slope against the wind, when at another time I have run easily down it and up, or nearly up, the next rise before being re-

quired to pedal. Naturally, I am speaking of give and take roads.

Up to the present time I have travelled 1,280 miles with the dual cyclometer, and have free wheeled 260 miles, or a trifle over 20 per cent as the average. The best results that I have obtained were on a run with a light wind behind me, which died away before I returned homeward.

Here in a distance of sixty-six miles, out and home, I free wheeled eighteen and one-half miles, or nearly 30 per cent, and I attribute this to the number of switchbacks, where the impetus of the descent, plus the wind, carried me in several cases over the rising ground under the free wheel.

On the other hand, I have records which, under adverse conditions, show as low as 8 per cent, but in the majority of cases it varies from about 20 to 22 per cent, so that an average of 20 per cent is very closely approximated; but this can only be said to be true when there are no adverse conditions and where the running is good.

My experiments are still in the preliminary stage, and I shall continue them until the end of the year for a final summing up of the results; but it may be taken as accurate that if we get 20 per cent free wheeling we are doing all we can expect; at the same time I venture to think that my machine is giving rather better results than can be expected from the ordinary free wheel clutch.

There is a point that I would like to bring out, because it is one which I am certain of and which results from my observations, that we are slower for an average speed with the free than with the fixed wheel. The cause is not far to seek. We are lazy, and more inclined to use the free wheel down any slope, be it either slight or not, than to do as we were wont to do, pedal down everything.

I am not sure that this loss in average speed is not a blessing in disguise, for it prevents us in a measure from overtaking our powers, because the free wheel gives us the necessary spell so as to pick up after riding a long hill, and, maybe, the cooling effect of sailing quietly down the other side is all in favor of the free wheel. I have many times found when riding in company, with my fixed wheel, that I travelled faster down a slight slope where my companion free wheeled, and I am led to infer that the average running of the free wheel is slower than the fixed.

Used the Mud Guard for a Seat.

The machine carried two passengers—somewhat against its will, probably, for it was only designed for one. But the two boys did not mind in the least; they were enjoying themselves to the utmost. Being a drop frame machine, it was equipped with a mud guard to the rear wheel, and on this the rear rider was perched. With legs dangling and hands clasped around the first boy's waist, they whirled away. The mud guard braces were stout, for they held the weight splendidly, and although forced down did not quite touch the tire.

HARDENING BEARING CONES

Method Used in Reheating to Prevent Cracking From Hardening.

"When in charge of a hardening plant, where hundreds of bicycle cones were hardened each day, I found that it took considerable time to reheat the cones to a point that removed the liability of their cracking when each piece was heated separately after hardening," says a writer in a contemporary.

"A large tank was rigged up, having a perforated pan in the bottom with wires for drawing it up. The tank was filled with water to within four inches of the top, a steam pipe was connected with the tank and the water was kept at the boiling point. As soon as a cone was hardened it was dropped into this tank, and the temperature of the boiling water was found to be about right to reheat the cones to a point that prevented their cracking. Some hardeners claim the above described operation unnecessary, but I think it a very wise precaution to take.

"When we speak of cracks in steel our minds naturally turn to the hardening department. It never occurs to the average man that it is possible to crack a piece of steel in any way except in the necessary operations of hardening and tempering. I am well aware that a large amount of steel is spoiled every year through carelessness in the various hardening departments of the different shops throughout the country, but I believe that a greater amount is spoiled on account of imperfect facilities for doing the work, and an imperfect knowledge on the part of the operator of the nature and peculiarities of steel.

"A man may heat a piece of work very carefully; his heat may be 'just right,' so far as temperature goes; it may be uniform throughout; he may dip it in the bath in the most scientific manner, yet if he fails to reheat the piece on taking it from the bath to 'take the strains out,' or, in other words, to heat the surface of the steel sufficiently to allow it to conform in a measure to the changes that take place in the interior of the piece after the outside portion is hard and unyielding, the piece is very liable to crack—that is, if it is of a diameter larger than one-half inch.

"The reheating of the outside of the piece may be accomplished in several ways. The most common method is by holding over a fire or in a blaze until the surface is heated to a temperature that makes it impossible to hold the hand on it, yet not hot enough so that any of the temper colors are visible."

The Retail Record.

Salina, Kan.—Fred L. Martin succeeds Lohmiller Cycle Co.

Lynn, Mass.—Walter Porter & Co., Munroe street, filed petition in bankruptcy; liabilities \$2,806, nominal assets \$2,846.

MOTOR BICYCLE HANDICAPS

Rule of Thumb Methods Must Prevail Until Experience Shows the Way.

When one sits down to work out a scheme for handicapping motor bicycle racing, the difficulties are as the square of the conscientious desire to do the thing with precision, because there are so many factors which present themselves for consideration. It is not beyond the possibilities that some of the items which come to mind are from an over-zealous desire, and after the rule of thumb methods which will of necessity be first used are worked over to cut and fit the cases presented, they will show, in conjunction with accumulating data, that few, if more than two, conditions will prevail. For the moment these will be assumed to be capacity of cylinder as represented by the sweep of the piston and weight, including rider.

That the subject is of more than passing interest is shown by the attention being given it in the English cycling and motor journals. With one exception, nothing looking toward a solution has been attempted, the writers in question contenting themselves with such general statements as "until this question is satisfactorily settled there will always be friction." One writer has expressed a definite opinion as to what might be in saying that "the only sound basis for the handicapper is, of course, the horse power, but this unfortunately is itself a somewhat uncertain quantity. The cylinder's capacity appears to be the only fair way to assess the motor's power, short of testing it."

By "cylinder capacity" the writer probably means the sweep of the piston, or, in other words, the cubical displacement of the piston. To take him literally would mean that not only the cube of the piston's displacement, but the added cubical capacity of the combustion chamber and valve passage would have to be considered. These latter would not only mean a condition involving too fairly intricate measuring, but would mean that ideas on compression and speed—in conjunction with bore and stroke—would have to follow one line. This would be manifestly non-progressive and antagonistic to arriving at a correct ratio, in design, of all these elements. Few designers and builders yet agree on these, and perhaps never will. Therefore, only "piston capacity" should be considered for that part, leaving it to the abilities of the makers to get the most power, economically, with the balance of the conditions involved in the general makeup.

So far as offered up to the present writing, the only figures yet published are those of C. R. Garrard, in the Cyclist. It will be noted that Mr. Garrard states that his ideas are only approximations toward an end. His views are as follows:

"I have plotted a number of curves, and

have come to the conclusion that, to remove as far as possible the elements of chance, and to make this 'a game of skill' all through, we must not yet attempt to handicap motors of widely different cylinder capacities.

"I say 'not yet,' as many of my curves are somewhat erratic, and it is difficult to thread an ideal curve of capacities and time through the large variations.

"However, I promised to submit something so that, like the drawing of a new and complicated machine, we can start in and pull it to pieces, picking out as many errors as possible.

"On the question of weight and energy, it must be borne in mind that we are studying track or flat racing only, with an ever present out and home or average wind resistance.

"The consideration for road racing will be different as regards weight, for whereas on the flat the tractive effort to move the system (independent of engine friction and wind resistance) remains very nearly constant, and is below 1 per cent, whereas on an incline of 1 in 10, or 10 per cent, the tractive effort will be 10+1 or 11 per cent, here every few kilograms of weight will count, but not so on the flat.

"It may be interesting to note the very high efficiency shown by Mr. Perks at Westerham; here we have machine 120 pounds, rider, say, 150 pounds—270 pounds. In the contest he raises this weight against gravity 400 feet in 2¼ minutes, or, giving 48,000 foot pounds minutes, or 1.454 horse power against gravity alone, the engine must have given off considerably more energy, of course, to overcome the frictions of wind, engine and cycle.

"Here, then, we have the answer to those who doubt the utility or pleasure of motor cycling. Let any anti-motist try Westerham on a good hot day; it will take him some ten to twenty minutes to do the same work as the motor does in two or three minutes, and he, too, will generate some heat (and moisture) in the process. The motor has come to supplement, not to replace, the cycle, and it has come to stay.

"The smallest engine is 55 by 60, or 142 cc., and this is used very successfully for touring.

"The largest except Rigal's) at Plymouth were Martin's 406 cc., and Garrard's 424 cc., and to bring these together at the post the 142 rater would require 4¼ minutes' time allowance, or over seven laps. Here, then, is a race no one but the lap scorers could follow.

"I would therefore suggest that programmes be made out for entries thus:

"Motor cycles up to 150 cc. capacity, "Light tourists;" motor cycles over 150 and under 250, "Heavy tourists;" motor cycles over 250 and under 350, "Racers;" motor cycles over 350 and under 450, "Heavy racers;" motor cycles over 450, "Terribles."

"There will only be a few Terribles if this matter is taken up as it should be.

"Now, handicapping between these limits

can be conducted on the basis of the constant curve, then when the handicapper has figured down the capacity allowances, he might proceed to weight and tire corrections or allowances.

"Weight allowances on the flat I would take the standards of weight as follows:

	Lbs.	Kilogs.
Light tourists' class, with rider.	230	120
Heavy tourists' class.....	244	111
Light racer class.....	255	116
Heavy racer class.....	270	123
Terribles	—	—

"And for every eight pounds or part of eight pounds over that weight two seconds start in each five miles, and similarly for every eight pounds under a penalty of two seconds in each five miles (or eight kilometres).

I find on the light tourists' class the tread of tire is generally 3 mm., and on the heavy tourists' class 4 mm., and on the racer class 4 mm. is also quite common.

"I would suggest the standards be as follows:

Light tourists..... 2.5 to 3.5 mm.
Heavy tourists and all racers. 4.0 to 5.0 mm.

"Over and under these thicknesses I would allow four seconds per mm. per eight kilometres, or half a second per kilometre.

"The racing committee should reserve itself the right to consider other elements from time to time, but it seems fair to leave transmission, skill in designing valves, ignition, carburation, driving, disposition of weight, etc., all open to competition.

WESTERHAM.
Extract of Weights, Capacities and Times.

Catalog No.	H. P.	Machine alone ..	With rider	Capacity.	Bore	Stroke	Time	Pt. lbs. per min.	Developed H. P.
1—Less than 1%	112	262	216	165	65	72	2:42	38,815	1.176
2—Less than 1%	85	235	246	166	72	2:48	33,571	1.017	
3—Less than 1%	112	262	245	165	74	3:12	32,750	1.962	
4—Less than 1%	85	235	231	164	72	2:23	39,446	1.195	
5—Less than 1%	120	270	239	166	70	2:16½	48,000	1.454	
6—1¼ to 2%	140	290	355	174	78	3:01	36,250	1.099	
7—1¼ to 2%	110	260	345	176	76	2:10	48,000	1.454	
8—1¼ to 2%	150	300	406	178	85	2:09½	55,386	1.678	
9—1¼ to 2%	130	280	293	173	70	2:07½	52,706	1.597	

The cylinder measurements in the above are given in millimetres, and the cubic capacity in centimetres. The well known formula, stroke x .7854 x the square of the bore, being used. As an example, the first machine would show: 6.5 x .7854 x 6.5 = 215.69.

It will be noted that Mr. Garrard takes into consideration the tire. This should be left out, because it adds to an already complicated subject, but more especially for the same reason that he does skill in parts, etc., a matter of constructive designing.

One well versed in designing and experienced in construction has suggested that horsepower be the basis, and that horsepower be determined on the well known formula of raising a given weight a given height in a measured time, using a hill for the purpose, as illustrated in part of Mr. Garrard's suggestion. At first this presents an attraction, but a little consideration of the Westerham figures will show that uncertain results would follow.

For this purpose the figures in Mr. Garrard's original Westerham table have been

carried out to show the varying horsepowers which were evolved from cylinders of the same capacity. It is true that much of this variation is due both to the operator's differing skill and the unknown amount of pedaling indulged in, but the two sets of figures credited to Mr. Perks can be fairly taken, as he is an expert in the employ of the makers of the machines, both of which are designed alike, with the single exception of cylinder bore and stroke.

If the ratios of capacity of these two machines are taken as the means for handicapping, it will be found, on a percentage basis, that the smaller power would be given a handicap of 316 yards in every mile. On the basis of horsepower, as shown in the hill climb, the same rules of percentage applying, would give a handicap of 158 yards. It is evident from this that testing on hills does not agree with any empirical rule of horsepower based on capacity.

After all is said and done, the suggestion is offered that the sensible method of handicapping is on the basis of combined weight of the machine and rider. It will be noted that Mr. Garrard gives a formula of eight pounds to two seconds in each five miles. This would mean, approximately, a yard handicap in every mile for each pound.

Lacking any definite data on the few performances made in this country, combating this rule would not be a successful task. However, from the little that is available, a smaller handicap would seem to be necessary, and for a start it would be well to allow something like a yard to the mile for every two and one-half pounds. For an extreme case of 200 pounds difference this would mean eighty yards in the mile, or a fraction under one-quarter of a mile in five.

Through Sleeping Car Line to Grand Rapids, Mich.

A Pullman Sleeping Car of latest construction is now attached to New York Central train leaving Grand Central Station at 4:00 p. m., daily, running through over the Michigan Central, arriving at Grand Rapids at 12:55 p. m., next day, connecting in Union Station for all points in Western Michigan. For information and sleeping car reservations inquire of New York Central Agents.

Value of Ankle Motion.

Although the value of ankle motion should be understood by every rider, after all but few realize the large saving in power which may be had from so simple an effect.

A man turning a crank by hand naturally bends his arm and moves his body so that the power is directed along the arc of the circle described by the handle of the crank. Though he might not be able to give a scientific reason for so doing, yet if he were asked why he did not push out and draw back with a piston rod movement he would reply that it turns easier this way.

A rider using ankle motion, instead of pushing straight down like a piston rod, moves his ankle so that the power is directed along the arc of the circle described by the pin of the pedal.

A safe and simple guide for any one to remember is that the full leverage of a bicycle crank is obtained only when the power is applied on the arc of the circle described by the pedal pin, not outside of the circle nor inside, but in the line of the circle. To direct the force outside impairs the propelling power just as much as though the force was directed inside.

Started to Loosen the Axle Nut.

His pedal betrayed an unwillingness to revolve freely. He was looking at it in a helpless sort of way, utterly at a loss to know what to do. Another rider who was passing stopped and remarked: "It is too tight; loosen it a little." He meant the cone, of course, but the troubled one took the advice literally and started to unscrew the nut which secured the pedal pin to the crank, it being of this rather archaic design. When the Good Samaritan took the wrench from him, released the locknut and gave the cone a half turn, thus relieving the binding in the bearing, the first rider looked as if he was ready to bow down in adoration so great was his respect for the knowledge displayed.

"The A. B. C. of Electricity" will aid you in understanding many things about motor bicycles that may now seem hard of understanding. Price 50 cents. The Goodman Co., 154 Nassau street, New York.

The Great Cork Forests of Spain.

The cork forests of Spain cover an area of 620,000 square miles, producing the finest cork in the world. These forests exist in groups and cover wide belts of territory, those in the region of Catalonia and part of Barcelona being considered the first in importance. Although the cork forests of Estremadura and Andalusia yield cork of a much quicker growth and possesses some excellent quality, its consistency is less rigid. On this account it does not enjoy the high reputation which the cork of Catalonia does.

In Spain and Portugal, where the cork tree, or *Quercus suber*, is indigenous, it attains to a height varying from 35 to 60 feet and the trunk to a diameter of 30 to 36 inches. This species of the evergreen oak is often heavily caparisoned with wide spreading branches clothed with ovate oblong evergreen leaves, downy underneath, and the leaves slightly serrated. Annually, between April and May, it produces a flower of yellowish color, succeeded by acorns. Over 30,000 square miles in Portugal are devoted to the cultivation of cork trees, though the tree actually abounds in every part of the country.

The methods in vogue in barking and harvesting the cork in Spain and Portugal are virtually the same. The barking operation is effected when the tree has acquired sufficient strength to withstand the rough handling it receives during the operation, which takes place when it has attained the fifteenth year of its growth. After the first stripping the tree is left in this juvenescent state to regenerate, subsequent strippings being effected at intervals of not less than three years. Under this process the tree will continue to thrive and bear for upward of 150 years.

Wherein They Differ.

In looking over illustrations of American and English bicycles of to-day the notable difference is in the height of the frame and the consequent length of the head. The high and low frame have come in and out in this country, with the low as the present style.

BUFFALO Automobiles.

BUFFALO TONNEAU.

LOOK OUT

FOR CUT OF

Model 16 TONNEAU

IN NEXT WEEK'S ISSUE.

MR. C. S. HENSHAW, Boston Representative, 174 Columbus Av.
MR. E. J. EDMOND, New York Representative, 29 W. 42d St.

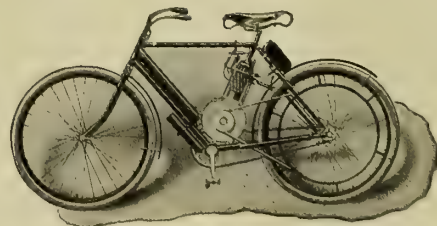
E. R. THOMAS CELEBRATED WORLD'S RECORD MOTORS.

Buffalo Automobile & Auto-Bi Company,

Model 15. Price, \$900.
Model 7 (Tonneau Detached). Price, \$800.

1200 Niagara Street, BUFFALO, N. Y.

"AUTO-BI." Standard Motor Cycle.



Model 4. Price, \$175.
" 3. " 150.

Upset the "Expert."

Two examples of the "bluffing" motor cycle wise ones were recently the experience of a Bicycling World representative. Both instances were at a racetrack, and each had to do with the spark.

In the first instance it was a pacing machine. With constant irregularity it would miss explosions. The expert in attendance went over everything, seemingly, and found all connections good, a good spark at the plug points, enough to assure jumping against compression. Yet the minute the plug was screwed home the trouble was on again. With an apology the representative had a look, and found the threads on the plug and those mating them in the head were coated with a hard scale of burnt oil. These were cleaned, thus giving a good grounding contact for the negative return to the coil.

In the second instance it was a motor bicycle to be used in an amateur race. It would run at the low sparking point, but the minute the sparking was advanced more than quarter way there was no go to the motor. This gave an idea of a weak spark, but the owner declared he had just put in a new battery especially for the race. Testing the secondary wire removed from the plug showed a thin, blue spark. In the face of this the same pacing machine expert declared there was enough "juice," and backed up his opinion with the owner's declaration of a new set of cells.

Another set of cells proved the need of them, and when the bicycle was put on the track again it ran faster than the rider dared to take the turns. It hadn't caused trouble of this kind before the cells were changed.

Fixed His Inlet Spring.

"You may think it 'too peculiar' when I tell you that yesterday I had an experience that was odd in a peculiar way," remarked one of the latest additions to the ranks of motor bicycle riders.

"For some little time I have been waiting for my machine, and from the day I ordered it there has been an arrangement on with a friend who owns a motor vehicle to go on a joint run, he in his vehicle and I on my motor bicycle, to see who would have the

best all round ride and as a sort of comparative test.

"Well, we went out yesterday, and nothing of moment happened until a peculiar popping or fluttering sound developed in his motor. At the same time his vehicle would slow down. I had just commenced to boast when the odd coincidence happened. My motor started to do the same thing.

"I confess I was at loss as to what should be done, but my vehicle friend had been there before. He got down, took out his inlet valve and stretched the spring, as he didn't have a new one with him. It taught me a double lesson. I found out what that popping sound indicated, and also that a weak spring on the inlet valve can be made to carry you home by pulling it out lengthwise to give more action for a short time."

Abandons Three and Four Wheelers.

Now comes the report that a prominent English maker of motor quads and tricycles is to abandon their manufacture because they cannot make this branch pay. They are going to push motor bicycles harder than ever. The entire reason seems to be that the motor quad, particularly, costs too near the price of light motor vehicles or voiturerettes, as the type is known abroad. The class who can buy the quad can buy the voiturette, while the class to buy motor bicycles cannot quite come up to the bigger machine.

The same reasons do not apply wholly to the tricycle, but they do in part. It would seem, however, that tricycles could be made at a small advance over bicycles, and that under certain conditions they would have a sale warranting a small product. Of course, it would be a condition that patterns could not change materially from year to year.

Worries the Germans, Too.

A writer in Der Radmarkt, in discussing the demand and sales of bicycles, says:

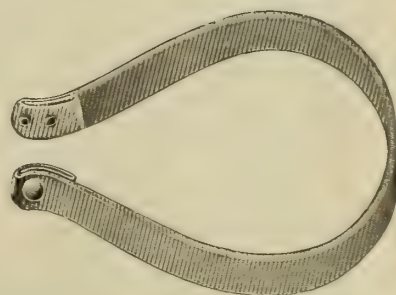
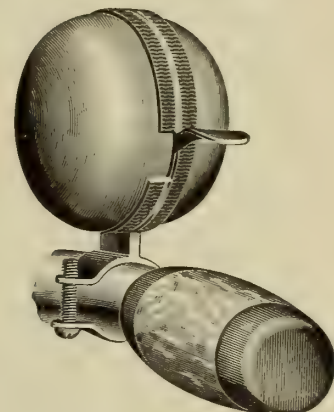
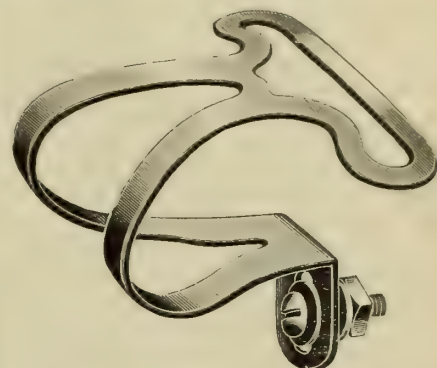
"At present the average use a cyclist makes of a new mount has reached five and six years. If this period could be reduced to two or three years by novel constructions and alterations in fashion the German market would annually absorb another 300,000 machines."

All the bicycle manufacturers and dealers and not only the Germans, but the whole world over, would thank the writer if he would tell them how this could be done without making cycling sport too expensive for all classes.

THIS HAS BEEN A GREAT SEASON

for the sundry trade, and one
that has again served to
emphasize the rare merit of

Bevin Goods



THEY ARE ALL
MONEY-MAKERS.

If you are not yet alive to the fact,
it's time to write us.

BEVIN BROS. MFG. COMPANY

EAST HAMPTON, CONN.

FOUNDED 1832.



HERCULES 2 1/2 h.p. Ball Bearing Motor

POWERFUL, DURABLE, LIGHT AND COMPACT

Just what you want for a powerful motor
tandem or single.

Thoroughly Tested. Mechanically Correct.

ALL PARTS BUILT TO GAUGE AND INTERCHANGEABLE.

Get our prices on castings, finished motor and
motor tandems.

PROMPT SHIPMENTS.

Money Back Guarantee.

G. H. CURTISS, Sole Agent, Hammondsport, N. Y.



RACING

At the N. C. A. races, Ottawa, on August 1, Kramer, in a whirlwind finish, won the mile circuit championship, defeating Collett, Wilson and Schreiber, in the order named. Time, 2:10 4-5. Frank Beauchamp, with 108 yards, scored his first win in America by capturing first prize, and all the lay money besides, in the two-mile handicap. Iver Lawson, with 30 yards, was second; O. S. Kimble, 90 yards, third; Ged Newkirk, 15 yards, fourth, and J. P. Jacobson, 120 yards, fifth; time, 4:18 1-5. The half-mile professional consolation was won by O. L. Stevens, in 1:04; P. Keegan second, John T. Fisher third and Jay Eaton fourth. This was the first appearance of Eaton and Stevens since their suspension two years ago. On the following afternoon the special features were "Major" Taylor's beating Kramer in the quarter mile, and the smashing of world's records from three to ten miles in the ten-mile international championship event. Taylor and Kramer had a bitter fight in the quarter, their sprint lasting one-eighth. Taylor won by a wheel in 32 4-5. Kramer second, and Collett third. Schreiber won the ten-mile professional championship, flying start, in 22:30 3-5. This establishes a world's record for everything from three miles up to ten. The best previous record was 22:35 3-5, made by Iver Lawson, at Salt Lake City. In the consolation lap race, at two miles, Fenn finished first and Fisher second. Time, 4:16 2-5. The final of the half-mile Ontario championship was won by Robitaille; Morton second, Jones third. Time, 1:18 2-5. The twenty-five mile Canadian championship was won by Morton; G. Smith second, Jones third, and W. Smith fourth. Time, 1h. 7m. On the 5th, the third and last day's racing took place. The half mile circuit championship was particularly exciting. It was almost a dead heat between Taylor and Kramer. The latter, however, won by a few inches in 1:07 3-5; Taylor second, Fisher third, Fenn fourth. The five mile professional handicap was won by P. Keegan, with 250 yards; M. Bedell (250 yards) second, F. Beauchamp (300 yards) third, Saxon Williams (250 yards) fourth; time, 10:46. Taylor and Fenn (scratch men) dropped out in the fifth mile. Collett won the half mile professional consolation; Bald second, Bedell third; time, 0:59 4-5. A. Martinau won the motor bicycle race, breaking the Canadian record for one mile of 1:36%. Martinau's time was 1:34 3-5.

Walthour won the twenty-five-mile paced race for the brassard at Boston, on July 31. Maya was second. Elkes did not finish, as an accident in the eleventh mile put him out of the ride. His front tire exploded, and he suffered a severe fall, no bones, however, being broken. A feature of the race was the riding of Maya, who, although having broken his collar bone in the morning, insisted upon keeping his engagement. He held his own when Walthour was clicking off miles better

than 1:21. The start was a very poor one, Elkes having a lead of twenty yards over Walthour, while Maya was ten yards behind him. This order and position was retained until the opening of the third mile, when Walthour pulled away from Maya and started to close up with Elkes. It was a long chase, Walthour finally getting his man on the last lap of the sixth mile. On the opening lap of the tenth mile, while making the turn into the homestretch, Elkes lost his pace, and did not catch it again until Walthour had gained half a lap. Then Maya went by him, which gave Maya second position. Elkes was again getting under way, but in the second lap of the eleventh mile the fall occurred. Maya then went out after Walthour, and gained yards on him until the last lap, when Walthour spurted, and won by a third of a mile. Time, 34:01 4-5. The final of the mile amateur open was won by Hurley, in 3:05 4-5; C. L. Kimball, second; Joe Curry, third, and P. F. Logan, fourth. Eighteen men did battle in the final of the two-mile amateur handicap, which was a fight from start to finish. The limit men took advantage of their allotted marks, and plugged along, while the low markers cut out and soon caught the bunch of middle mark men. At the bell the field was bunched. Kimball followed Logan from the rear, going up on the outside, and finishing in that order. P. F. Logan, with 40 yards, first; C. L. Kimball, scratch, second; F. H. Townsend, 90 yards, third, and Joe Curry, 30 yards, fourth. Time, 4:15.

The three cornered paced heat race between Ray Duer, George Leander and James Hunter, at Atlantic City, on July 30, was won by Leander. In the fifth mile of the first heat the chain on Leander's pacing machine broke, but he rode straight on, winning second place, with Duer first and Hunter third. Time, 7:51. Leander won the second heat. Time, 7:53 4-5. Duer was second. Leander also won the third and final heat. Time, 8:07 4-5. The two-mile motor tandem race, between Daly and Babcock and Boake and Thompson, was won by the former team. Time, 5:20 4-5. Limmerman and Sinclair also beat Boake and Thompson in a two-mile motor tandem race. Time, 2:58 1-5. On the same track, on August 1, "Gus" Lawson defeated Leander in a ten-mile heat race. The heats were close and exciting. On the last lap in the final heat the sprocket wheel on Leander's pacing machine flew off. Leander made a terrific sprint, losing by inches only. The first heat was won by Leander by one foot. Time, 16:32 2-5. Lawson won the second and final heats by inches, in 16:34 and 8:21, respectively. The final heat was five miles only. Thompson and Boake defeated Babcock and Daley by one foot in the two-mile motor tandem race. Time, 3:04 2-5. The one-mile professional race, between two tandem motors and a motor bicycle, was won by Thompson and Boake by two lengths; Babcock and Daley

second and Sinclair third. Time, 1:28. On the 5th, Munroe was beaten by Leander in a twenty-mile paced race. Monroe's pace was a considerable handicap, his motor working very badly. Leander won by one lap, in 32:11 3-5. The two-mile amateur handicap was won by V. Van Doren (scratch); H. Young (100 yards), second, and E. Deeroff (scratch), third. Time, 5:41.

Walthour won the twenty mile paced race at Manhattan Beach August 2. His time for the distance was 28:11 3-5. He covered the first five miles in 7:03 1-5, ten miles in 14:05 3-5, fifteen miles in 21:04 1-5. H. B. Freeman, who took Elkes' place, finished second, two laps behind Walthour, and Floyd McFarland took third place. There was considerable time lost in starting. Walthour crossed the line first, with Freeman close behind, and McFarland two lengths in the rear. In the second mile McFarland took second place. McFarland held the position until the ninth mile, when he lost his pace and had so much trouble with his motor that he had to let Freeman pass, and held this place to the end. The half mile open amateur went to Hurley, who, extricating himself when apparently pocketed, sprinted up the straight a winner; time, 1:27. L. Losee second, Billington third, Glasson fourth. There were seven entries in the five mile amateur motor bicycle race. J. A. Wyckoff, who started very much in the front, lapped his half dozen opponents and won in a convincing manner. S. W. Anderson was second and E. L. Ferguson third; time, 7:32 4-5. In the five mile pursuit race for professionals Ralph De Palma defeated George P. Kuhlke by 100 yards, after leading most of the way; time, 12:44 4-5. While Hurley captured the two mile handicap, he owed the victory more to Glasson than to his own speed. When the backmark men seemed out of it Glasson jumped out and paced the bunch until the leaders were caught. Then Hurley came through, with Losee on his rear wheel, and won easily by a length; Glasson third and Fred Winnington fourth; time, 4:33 2-5. Hurley and Glasson were scratch. Losee had 75 yards and Winnington 150 yards.

The oft postponed match race between Taylor and Fenn was run off at Hartford on July 31, before 2,800 people, and was won by Taylor, after a hot contest. The first heat, a two-mile pursuit race, went to Fenn, he closing up on Taylor until he was within a third of a lap of catching him at the finish. The second heat was captured by Taylor. This savored of the French style of racing, which meant a loaf from the beginning until near the finish, when Taylor showed his sprinting ability, and won out by nine feet. The final heat and the one which decided the race, was also captured by Taylor. This was a mile paced, in which two men alternated in pacing the riders. Taylor led Fenn by half a wheel at the finish. The summary is as follows: Two-mile pursuit race—Fenn won by one-third of a lap; time, 4:13 4-5; time

for first mile, 2:04; second, 2:09 4-5; Taylor's time, 4:23 1-5. Half-mile unpaced (French style)—Taylor won by three yards; time, 1:21 4-5. Mile paced (American style)—Taylor won by half a wheel; time, 2:07 3-5. The half-mile handicap for amateurs, run in three heats and a final, was won by A. E. Olds, W. Watson second and A. E. Rogers third. Olds had 80 yards, Watson 70 yards and Rogers 25 yards; time, 1:00 1-5. The twenty-mile lap race for amateurs was won by Oscar Diggs, M. G. Madden second, and Reed Thompson third. This race was run on points, as follows: 3, 2 and 1 for leaders at each lap; 5, 3, 2 and 1 for leaders at each two miles, and 10, 6, 4 and 2 for leaders at the finish. Diggs made 163 points, Madden 158 and Thompson 130. J. F. Ryan won the most laps, 28.

Floyd McFarland won the one mile open professional race at Vailsburg July 3; W. A. Rutz was second, Floyd Krebs third, and Howard Freeman fourth; time, 1:57 1-5. The field was so large that the referee allowed the men a rolling start. McFarland laid back to the last lap, where he went to the front and won in a fine sprint by half a length. Thirty-eight of the sixty-five entries in the twenty mile amateur open were sent away without a spill. J. Rockowitz led most of the way and captured the lap prize. Schlee held a prominent place throughout and, sprinting in the last lap, he won by two lengths, with M. T. Dove hanging to his rear wheel. James Lanes took third and Billington fourth, Oscar Goerke fifth; time, 48:10 2-5. Mike Coffey ran away with the half mile amateur handicap while Hurley, Billington, Glasson and Schlee were disputing as to who should set pace. Coffey had 30 yards; Losee second (scratch), Lanes (25 yards) third; time, 0:59 4-5. There were 2,000 persons present.

The twenty-five mile paced race between Joe Nelson and Nat Butler at Pittsburg August 2 was won by Nelson by two miles and one lap, in 35:44 3-5. Nelson shattered all world's records from two to eighteen miles, inclusive. Nelson rode the first five miles in 6:37, lowering Champion's record of 6:55. His time for ten miles was 13:39, which lowered the record of Elkes, 13:41 2-5, made July 30 at Providence. His time for fifteen miles was 20:56, a substantial reduction of Elkes' record of 21:19 1-5. Nelson's finishing mile, was made in 1:18 3-5; the fastest previous mile made at the finish of a race was made by Champion in 1:19 2-5.

Otto Maya won from J. F. Moran by thirty-five yards in a twenty-mile paced race at Worcester, on July 30. Moran led for seventeen miles, when the chain on his motor broke. For several laps Moran followed his pace with the chain dragging, in imminent danger of a severe fall. Finally the rear man on the tandem pulled the chain off, and Moran regained his pace. Although Maya was by this time so far ahead that Moran could not win, he, however made a whirlwind finish, and nearly

overtook the leader. Maya's time was 32:19. Moran's time, 32:21 3-5.

The largest crowd of the season saw Monroe win from Joe Nelson in a twenty-five mile paced race at Pittsburg August 4. Nelson's pacing machine gave him considerable trouble during the race. Monroe finished $1\frac{1}{4}$ laps to the good in 34:57 3-5. Monroe had to lower all world's records from fifteen miles to twenty-five, inclusive, to beat Nelson. Monroe lowered the fifteen mile record of Nelson from 20:56 to 20:48, the twenty miles of Walthour from 28:11 3-5 to 27:53, and the twenty-five mile of Elkes from 35:27 to 34:57 3-5.

E. F. Root won the ten-mile open race at Springfield on July 31, in 24:01 4-5; Fred Ernst second, G. E. Linley third and C. L. Hollister fourth. E. F. Root and W. G. Potter, representing Boston, won the intercity pursuit race, defeating the Springfield pair in the finals by a mile and four laps. The final of the one mile handicap was won by G. L. Guthrie (125 yards); C. J. Cannon (70 yards), second; L. Snerman (120 yards), third, and L. D. Fay (75 yards), fourth; time, 2:02 3-5.

According to a cable dispatch from London, dated August 4, F. W. Chase on that date put up a new five-mile motor bicycle record of 6 minutes 10 seconds. He made a mile, with a flying start, in 1 minute 9 2-5 seconds. These are world's records.

The cable dispatch gives the weight of the motor as being four and one-half pounds, a weight that staggers belief and suggests an error in figures.

Elkes defeated Hugh McLean at Providence, on July 30, by a lap and a half, in a twenty-five-mile paced race. The world's record of 1:22 3-5 for the mile was broken, the mark being placed at 1:21 2-5. Elkes led for the first six miles, and McLean was in front for the following fifteen, but Elkes passed him by magnificent riding, winning in 35:25. Hurley won the one mile handicap and also the two-mile open.

The twenty-five-mile paced race at Pittsburg, on July 30, between Munroe and Butler, was won by the former in 35:28. Butler was one mile and five laps behind at the finish. Munro's time for five miles was 7:09; ten miles, 14:05; fifteen miles, 21:12; twenty miles, 28:20.

At New Haven, August 5, E. Stander won the twenty mile open amateur race in 45:40 2-5. C. L. Hollister was second, Marcus Hurley third, J. P. Linley fourth. Schlee won the lap prize. The one mile amateur handicap was won by W. Haggerty (35 yards), Hollister (50 yards) second, Bert Perkins (50 yards) third; time, 2:02 2-5.

The first attempt to run a handicap race for motor bicycles will be made at Manhattan Beach on Saturday next. A two mile event is programmed.



DE LONG Motocycles

ALWAYS GIVE SATISFACTION.

There are no tanks or
bags attached to it.

FULLY PROTECTED BY PATENTS.



PRICE \$200.

INDUSTRIAL MACHINE CO.

SYRACUSE, N. Y.



HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

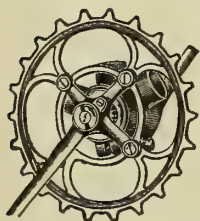
Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

**"D. & J." HANGERS**

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

—AND—
The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY

THE NATIONAL CEMENT & RUBBER MFG. COMPANY,

Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN CHAIN

NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

FOR SALE—Brand new latest model Marsh
Motorcycle, \$125. E. H. CORSON, New Eng-
land Agent for Merkel Motorcycle, 100 Boylston
St., Boston.

FOR SALE—1 1-4 horsepower motors, with
complete accessories for bicycles. HOLLAND
AUTO Co., Jersey City, N. J.

Elwell European Motorcycle Tour.

Summer of 1903.

Write F. A. ELWELL, 58 Prospect St., Waltham, Mass.

**The Only Tires Fit For
Motor Bicycles—****GOODYEAR
DETACHABLES**

GOODYEAR TIRE & RUBBER CO., AKRON, OHIO

You all know what the diamond stands for among
precious stones. You can't well afford
not to know that

D-I-A-M-O-N-D-T-I-R-E-S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

Traveling Salesman Wanted.

Manufacturers of a standard
sundry have a good opening
for the right kind of man.

Address R. F. W.,

Care BICYCLING WORLD

ALL ROADS ARE EASY WHEN THE



**STAR
BALL
RETAINER**

IS USED.

With millions in daily use, it has stood the test for
more than five years, and is adaptable to ball bearings of
any kind.

If you are users of ball bearings we would be pleased to hear
from you and mail you our catalog with the latest information,
which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

REGAL BICYCLES.

STEARNS BICYCLE AGENCY,

General Distributors,

SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

The Week's Exports.

England, France and New Zealand were at the top of last week's export manifest. There were a number of tidy parcels, but none that approached the purchases of those three countries. The record in detail follows:

Antwerp—8 cases bicycle material, \$355.
 Brazil—3 cases bicycle material, \$184.
 British East Indies—27 cases bicycles, \$1,404.
 British Australia—48 cases bicycles and material, \$1,016.
 British West Indies—64 cases bicycles and material, \$1,682.
 Cuba—3 cases bicycle material, \$365.
 Christiania—2 cases bicycles, \$47; 1 case bicycle material, \$35.
 Copenhagen—2 cases bicycles, \$65; 17 cases bicycle material, \$940.
 Central America—2 cases bicycles and material, \$33.
 Danish West Indies—2 cases bicycle material, \$17.
 Dutch West Indies—4 cases bicycle material, \$43.
 Dutch Guiana—13 cases bicycles and material, \$414.
 Dutch East Indies—2 cases bicycle material, \$30.
 Genoa—39 cases bicycles and material, \$1,736.
 Gothenburg—1 case bicycles, \$30.
 Havre—124 cases bicycles, \$1,760; 45 cases bicycle material, \$2,525.
 Hamburg—1 case bicycles, \$30; 6 cases bicycle material, \$250.
 Japan—45 cases bicycle material, \$1,404.
 London—3 cases bicycles, \$115; 74 cases bicycle material, \$4,462.
 Lausanne—2 cases bicycles and parts, \$35.
 Liverpool—162 cases bicycles, \$2,305; 6 cases bicycle material, \$269.
 New Zealand—84 cases bicycles and material, \$3,869.
 Rotterdam—39 cases bicycles and material, \$1,245.
 Reval—1 case bicycle material, \$40.
 San Domingo—1 case bicycles and material, \$15.
 Southampton—5 cases bicycle material, \$167.
 Stavanger—2 cases bicycles, \$45.
 United States of Colombia—6 cases bicycles and material, \$199.
 Uruguay—1 case bicycles, \$45.

The Week's Patents.

705,616. Galvanic Battery. Charles B. Schoenmehl, Waterbury, Conn. Filed Dec. 1, 1900. Serial No. 38,286. (No model.)

Claim.—1. In a battery of the class described, the combination with a jar, of perforated sheet-metal tubes located therein to form a receptacle for a depolarizer, an expandible wire interior of said part or parts adapted to force them outward and retain them rigidly against the jar, a zinc coated interior of said depolarizer and means for the attachment of a wire to each of said elements, substantially as shown and described.

705,664. Bicycle Attachment. Frank Gooch, Shelburn, Ore. Filed Feb. 24, 1902. Serial No. 95,224. (No model.)

Claim.—1. The combination with a bicycle, of a flanged guide wheel in front of each bicycle wheel, the forks which respectively connect the guide wheels with the axles of the front and rear wheels of the bicycle and with the fork rods, unflanged wheel and lateral brace rods, as and for the purpose set forth.

705,768. Wheel Tire. Hyman Lieberthal, Chicago, Ill. Filed May 5, 1902. Serial No. 105,964. (No model.)

Claim.—1. In a wheel tire the combination with a flexible tube, of two series of yielding braces in said tube, each series being located at one side of the longitudinal centre of the tube, and a spring for each brace intermediate of its ends, substantially as specified.

TRADEMARKS.

38,700. Pneumatic Tires for Bicycles, Carriages and Automobiles. Fisk Rubber Co., Chicopee Falls and Springfield, Mass. Filed June 30, 1902.

The word "Premier." Used since November 22, 1900.

OILERS.**"PERFECT"**

5c.

"GEM"

5c.

"LEADER"

10c.

"CROWN"

5c.

"STAR"

10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs, 240-2 W. 23d St., N. Y.

THERE would be neither pleasure nor comfort in

RIDING ON A PLANK;

even if it were mounted on pneumatic-tired wheels. Yet the rigid frame bicycle is just about as hard and unyielding and uncomfortable as a plank.

But, as we all know, many people are riding such boneshakers, and too often solely because they have had no chance to ride anything else.

Bicycle dealers who are "up to snuff" realized the fact long ago and have helped themselves and the best interests of cycling by having a

Cushion Frame

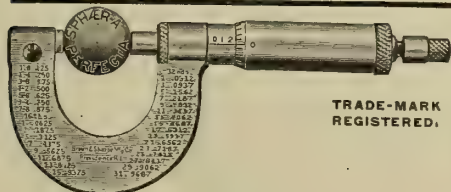
bicycle where all may try it. It makes sales for them and teaches people the real comfort there is in cycling.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

**STEEL BALLS**

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

Bicycle Dealers,

WRITE US FOR CATALOGUE OF OUR LOW PRICE

Cash Registers and Fire-Proof Safes.

You will make more money selling these two lines in the winter months than anything else you can handle.

CATALOGUES FREE.

E. P. BLAKE CO.,

57-59 Sudbury Street,

BOSTON, MASS.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburg
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.



The Authority of the Cycle World

RELIABLE NEWS

ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.

Unbiased opinions on mechanical matters.
WEDNESDAYS, ONE PENNY.

Through all Bookshops and Newsagents or from the
Publishers
ILLIFFE & SONS Limited,
3, St Bride Street, London, E.C.

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect June 15, 1902.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	3.15 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars
running through to Chicago.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE
TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines. A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

LOWEST RATES
FAST TRAIN SERVICE

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

NIAGARA
FALLS

One of the natural wonders of the world. A charming place at any season of the year, reached from every direction by the

NEW YORK CENTRAL LINES

A visit to the Falls is an object lesson in geography; an exhibition of landscapes that no painter can equal, and a glimpse of the latest developments of the industrial world.

A copy of Four-Track Series No. 9, "Two Days at Niagara Falls," will be sent free, postpaid to any address on receipt of a two-cent postage stamp, by George H. Daniels, General Passenger Agent, New York Central & Hudson River Railroad, Grand Central Station, New York.

ORLANDO STEVENS

Returns to the Track.

HE
RIDES
A

YALE

Why?

ASK

THE KIRK MFG. CO.,
TOLEDO, OHIO.

167 Oliver St., BOSTON.

83 Chambers St., NEW YORK.

Two Selling Articles

== THE ==
Hussey Bar

== THE ==
Snell Bicycle

The Snell Cycle Fittings Co.

New York

TOLEDO, OHIO

Boston

If you ride or sell,
or intend to ride or sell
motor bicycles,

"Motocycles and How to Manage Them"

is the very book you need.
Every page teaches a lesson. Every illustration
"speaks a piece."
And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.

CYCLE DEALERS!

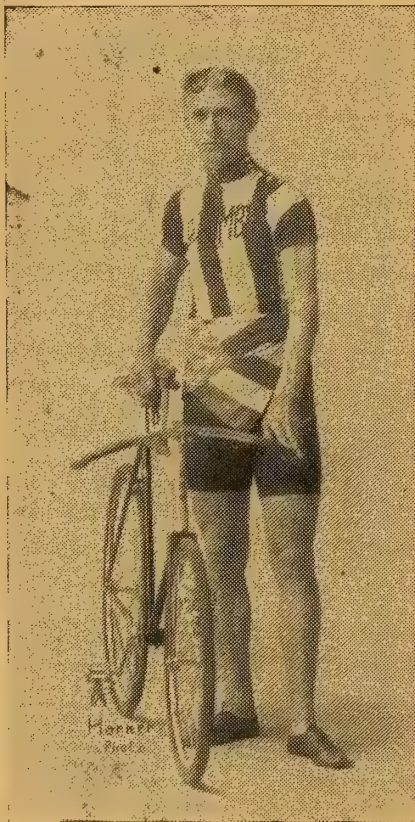
DO YOU REALIZE

THAT TO ADVERTISE THE

STANDARD BICYCLES OF THE WORLD

WE MAINTAIN THE

LARGEST CYCLE RACING TEAM ^{IN} THE WORLD,



BOBBIE WALTHOUR,
Atlanta,
Columbia Cycling Team.

INCLUDING SUCH MEN AS

IVER LAWSON, Cleveland Team.

J. T. FISHER, Monarch Team.

LESTER WILSON, Rambler Team.

G. C. SCHREIBER, Imperial Team.

O. S. KIMBLE, Tribune Team.

E. C. BALD, Columbia Team.

JOHN BEDELL, Columbia Team.

D. SULLIVAN, Crescent Team.

JED NEWKIRK, Crescent Team.

W. MARTIN, Cleveland Team.

F. BEAUCHAMP, Tribune Team.

W. C. STINSON, Rambler Team.

BOBBY WALTHOUR, Columbia Team.

F. A. McFARLAND, Tribune Team.

TOMMY HALL, Monarch Team.

W. S. FENN, Cleveland Team.

BENNY MUNROE, Cleveland Team.

JAMES HUNTER, Cleveland Team.

W. F. KING, Tribune Team.

GEORGE LEANDER, Crescent Team.

B. De GUICHARD, Rambler Team.

SUCH ADVERTISING MAKES EASY SELLING GOODS.

DO YOU HANDLE OUR LINES?

SHALL A TRAVELER CALL?

American Cycle Manufacturing Company.

NEW YORK.

CHICAGO.

SAN FRANCISCO.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, August 14, 1902.

No. 20

TO AWAKEN L. A. W.

Movement Begins in New York—Opposition to Do-Nothing Regime Names a Slate.

It is no longer a secret that an effort will be made to reinvigorate, or to at least shake up or wake up the League of American Wheelmen. The beginning will be made with the New York Division.

The movement has been quietly hatching for some time, but it was not designed that information regarding it be given out until the reigning regime had gone through the motion of making their nominations, and thereby perpetuating themselves, as has been the case of late years. The matter has, however, leaked out, and it is now fairly public property that the opposition to the do-nothing policy that has prevailed will name Alderman Joseph Oatman, the energetic and popular president of the Associated Cycling Clubs of New York, as its candidate for chief consul. As vice consul Oatman's most likely running mate is R. G. Betts, of Brooklyn, editor of the Bicycling World and president of the Metropole Cycling Club and a member of both the Alpha Motor Cycle Club of Brooklyn and of the New York Motor Cycle Club. Robert Bruce, of New York, a magazine writer of ability, and an unattached but veteran league member, is slated for secretary-treasurer. He is one of the best informed men regarding cycling affairs in the country.

The regular candidates, it is understood, will be the present incumbents, viz: C. J. Obermayer, of Brooklyn, chief consul; W. M. Thomas, of Albany, vice-consul, and John F. Clark, of Prince's Bay, secretary-treasurer.

The same nominating committees that served last year in the various districts into which the State is divided were reappointed. The members of these committees then modestly nominated themselves for district representatives, and, according to reports, have once more renamed themselves. These re-nominations are due to close on September 1, after which date fifteen days are allowed for independent nominations. Unless the secretary-treasurer, however, elects to make public the nominees the members of the league have no means of learning who's who—a form of "ring rule" or star chamber methods that the independents, if successful, promise to put an end to.

Harlem Dealer Fails.

Fernando Wood, doing business as William Wood, dealer in bicycles, sporting and athletic goods at Nos. 23 and 25 West 125th street, New York, made an assignment on Tuesday to Sidney Ward, without reference. The business was established in 1888 by his father, William Wood, who for many years had a gymnasium on Twenty-eighth street, near Fifth avenue, and was afterward instructor of physical culture in the Young Men's Christian Association, at Fourth avenue and Twenty-third street.

William Wood died on September 20, 1900, and the business has since been managed by the son. The store is a large, well stocked one. The cause for the assignment is said to be due to Mr. Wood's ill health. He has been ill for some time and unable to give full attention to the business. The liabilities are about \$12,000, and nominal assets \$10,000 to \$11,000.

Radical-Racycle Removed.

It is in the air that among other good things for 1903 the Miami Cycle & Mfg. Co. will market a racer that will border on the sensational. While little more than the bare fact has been noised about, reports say that this particular Racycle will so far depart from the conventional as to really merit the term "eye-opener."

One Spring for all Weights.

The Regas Vehicle Co., Rochester, N. Y., have added a vital improvement to their spring frame. By merely turning a screw it permits of the same spring being tensioned for riders of all weights. Heretofore different springs were required for different weights.

German Buyer Coming.

Ellis Menke, of Frankfort, one of Germany's principal cycle importers, is due in this country at the end of the current month. He comes to make his annual purchases, and with an eye open for novelties in particular.

Now at Milltown.

The International Automobile and Vehicle Tire Co. are now fully installed in their new factory at Milltown, N. J. The pneumatic tire department is in full swing, and orders of any size can have prompt delivery.

EDMOND WINS ECONOMY TEST

Does 50 Miles at an Expense of 8 1-10 Cents—Seven Blue Ribbons for Non-Stops—Stringent Rules Thinned Ranks.

Once more has the motor bicycle been put to a far more severe test than is the motor vehicle in like affairs, and again has it proved its fitness. In the Boston to New York endurance run it accomplished, with plenty to spare, in two days what the vehicles are only asked to do in three days.

On last Saturday, at Manhattan Beach track, New York, under the auspices of the New York Motor Cycle Club, of this city, the motor bicycle was put through a fifty-mile economy run under the strictest of possible rules.

That these rules were stringent came from the local necessities. The fact that an observer could not go along with each machine made it necessary to run the event on a track in place of on the road. The track billing calling for a race meet made it obligatory that a maximum time allowance be part of the programme. This latter condition was further aggravated by an unfortunate contretemps which occurred at the last minute. The teamster who had been engaged to cart the "official" gasoline to the track failed in his work. The result was a delay of one and a quarter hours.

When the fluid did arrive the official measurer was swamped with work, and after the first few tanks had been filled down to half ounces—the bicycles were brought to the stand with gasoline tanks empty—help was given by some of the other officials, the last ounces being put in from a graduate by the official, tally being kept of the previously poured pints.

At last everything was ready, 19 of the 24 entries being lined up at the tape. Each contestant was then instructed as to the rules; that ten minutes would be allowed, all told, for additional supplies of gasoline and for lubrication; that during these stops no other attention could be given to machine or parts; that stopping for any other purpose would disqualify for finishing, and that

after the scoring start pedalling during any one lap for more than half a lap would also disqualify.

Attention was also called to the provision of a blue ribbon to be given all non-stop contestants, in addition to the gold, silver and bronze medals to be awarded in their order to those using the least quantities of gasoline. It is a notable fact that all those who finished did so without taking advantage of the allowed ten minutes for stops, thus adding to the affair truly a non-stop event.

A rolling start was made and each rider

riding the motor bicycle soon asserted itself, and the officials had to constantly warn against speeding, much as they regretted to do so. After the riders had thinned out from various causes, faster riding was allowed, as room on the track permitted and in order to not delay the motorless races which were to follow. That the time of the first man to finish his fifty miles, 1:39:37, was not a criterion of what could have been done was proved by the two mile amateur motor bicycle handicap race, which occurred later on the programme, and which was run from scratch, with a standing start, in 3 m. 4 s.

THE LINE-UP.

they could have gone on, as their causes for withdrawal were all of a character that could have been taken care of without undue delay.

C. J. Arnold's trouble came at the end of the second mile from a clogged air vent in the cap covering the filling hole of the gasoline tank. This cap was so tightly screwed into place that it could not be loosened a turn or two by hand to give the needed vent. Had a stop been permissible, a minute or two with a wrench would have allowed him to continue.

Four miles was E. Hafelfinger's score when



STARTER SLUSSER.

FIRST TIME AROUND.

MACRERY RETIRES.

given one turn of the track, a third of a mile, in which to get going for the scoring.

At the pistol all got away in good order, the nineteen riders giving a kaleidoscopic effect. Some started the motors at once, while others, keenly alive to the consumption feature and realizing that time had no value beyond the large maximum leeway, pedalled their machines to within a few yards of the real commencement of the contest, knowing that their motors would start the minute that gasoline and electricity were turned on.

For the first few times around the track every man engaged kept well within the twenty mile fast schedule limit, but that exhilaration which naturally comes when

The four Columbia men and J. H. Wise furnished the only novelty in dress, all others being in regular bicycle costume. The feature of the Columbia riders was their shirts of broad, alternating bands of pale gold and white, running the length of the garment. Mr. Wise's costume was a full suit of khaki. These costumes added local color to the participants and afforded distinguishing marks in assisting the scorers to keep track of their men.

The weeding out process began at the end of the second mile, and it is obvious that in the instances of Messrs. Arnold, Seaman, Phillips, Douglas, Macrery and Bernard, at least, had there not been the necessity for the stringent stopping rules which prevailed

one of the links of the drive chain running back to the rear wheel snapped in two. This was an instance where repairs would ordinarily have taken time that would have materially counted.

The most peculiar cause for enforced withdrawal was that which put W. F. Seaman out of the running at the end of the seventh mile. Mr. Seaman had started out with a number of cloths wrapped around the seat post cluster in lieu of a saddle, that adjunct having broken on the way to the track. Going well, everything pointed to a non-stop finish, when suddenly a piece of the cloth dropped into the rear wheel and became tangled between the spokes and the fork

(Continued on page 526.)

CROOK CAUGHT

Sleek Swindler Jailed in Racine — How he Operates to Secure Motor Bicycles.

One day last week a young, well dressed, smart appearing young man walked into the office of the Wisconsin Wheel Works, Racine, Wis., and introduced himself as L. William Mason, of Washington, D. C. He stated that he was a man of leisure and was spending some time touring the country on the motor bicycle; that, having had an opportunity to dispose of the machine on which he left Washington at Toledo a few days previously at a fair price, he had done so, and being greatly interested in the Mitchell motor bicycle, having met one of the Wisconsin Wheel Works' representatives at Laporte, Ind. After chatting in a pleasant way for a half hour he finally said that he would "take" a Mitchell. Two machines were taken out, one ridden by Mr. Mason and the other by one of the factory riders. Away they went, Mr. Mason in the lead, riding like a trooper. Two miles out Mason asked his companion to exchange bars, as the one he was using did not satisfy him. The exchange made, Mason's adjusted first, he mounted and rode away westward before the other man was ready. During the few minutes necessary to adjust the second bar Mason disappeared. The factory rider gave up hunting for him and returned to the office, but on his way back inquiring of another rider developed that Mason had been seen going into Racine a short time before. Suspicion at once arose, and was strengthened when the telephone called and Mason announced he had become separated from his guide; that he was at Sylvania, eight miles out, and that as soon as he got a bromo-seltzer he would ride in. Sylvania has no telephone and no chance for bromo-seltzer.

The 11:30 Chicago train always stops at the junction station. A telephone to the American Express Co. revealed the interesting information that Mason had ridden the motor bicycle to the main station in Racine to put it in the express car there. By this time the train was almost due at the junction. A half dozen of the office force lost no time in getting there to meet it. Two were stationed to take the machine from the express car should it prove to be there, and the others were scattered along the platform, with instructions to find Mason and turn him over to the police. He was easily found, occupying a seat in the smoker, enjoying a cigarette, and with the nice new leggings furnished by the Wisconsin Wheel Works on his lap.

Before any one could get to him from the outside he dived through the window in the opposite side of the car, which, being vestibuled, prevented immediately pursuit by the people interested. However, he was soon located in a lumber yard and collared twenty minutes afterward. Very soon he was sit-

ting in Captain Lewis's office, where, such a short time before, he had conversed so fluently of motocyling, etc., but, like the boy, he "had nothing to say."

Mr. L. William Mason's present address is the County Jail, Racine, Wis., and as his trial comes off this week he will in all probability leave Racine for a definite stay in the Wisconsin State Prison at Waupun. In case of any technicality the Buffalo Automobile & Auto-Bi Co., Buffalo, N. Y., are anxious to lay hands on the sleek Mr. Mason for "forgetting" to return a motorcycle "borrowed" from them to run down to the bank to cash a draft to pay them for a motorcycle he had ordered shipped to Spokane, Wash. The



L. WILLIAM MASON, THE CAPTURED CROOK.

Auto-Bi was afterward recovered in Toledo by telegram from Buffalo.

Newspaper clippings were found on Mason's person, and as they told of several confidence games he had worked the accompanying portrait may aid in preventing repetitions. From letters and memoranda it seems he is well known in Worcester, Mass., where a certain lady of that city was to be notified in case of accident or sickness.

Mason claimed shortly after arrest that his name was H. C. Jones, of Lexington, Ky., but a telegram to the Lexington chief of police brought word that H. C. Jones was at home and perfectly straight.

Warwick Case Settled at Last.

The suit brought against the directors of the old Warwick Cycle Co. some three and one-half years ago by creditors of the concern, on the ground that the liabilities of the company were greater in comparison with the capital stock than allowed by law, has finally been settled. The terms of the agreement reached have not been made public.

Cigarette Caused Fire at Corbin's.

The office building of the P. & F. Corbin Co., New Britain, Conn., was destroyed by fire last Friday, with valuable contents in the shape of papers and documents. The building was reputed to be one of the finest office buildings in the country. The money loss is about \$20,000, covered by insurance. The fire is supposed to have been caused by the careless dropping of a lighted cigarette,

STORCK'S WAY

Winning Methods Pursued by a Dealer who Literally "Goes After" Business.

There are a good many agents who could employ to their own gain the methods pursued by Frank C. Storck, the energetic bicycle agent, of Red Bank, N. J. Storck is a bicycle agent and is proud of the fact, and while, like a good merchant, he handles other goods in the off season, bicycles are first and foremost with him, and he takes pains to impress this fact on his public, as well as that good goods only are what he believes in.

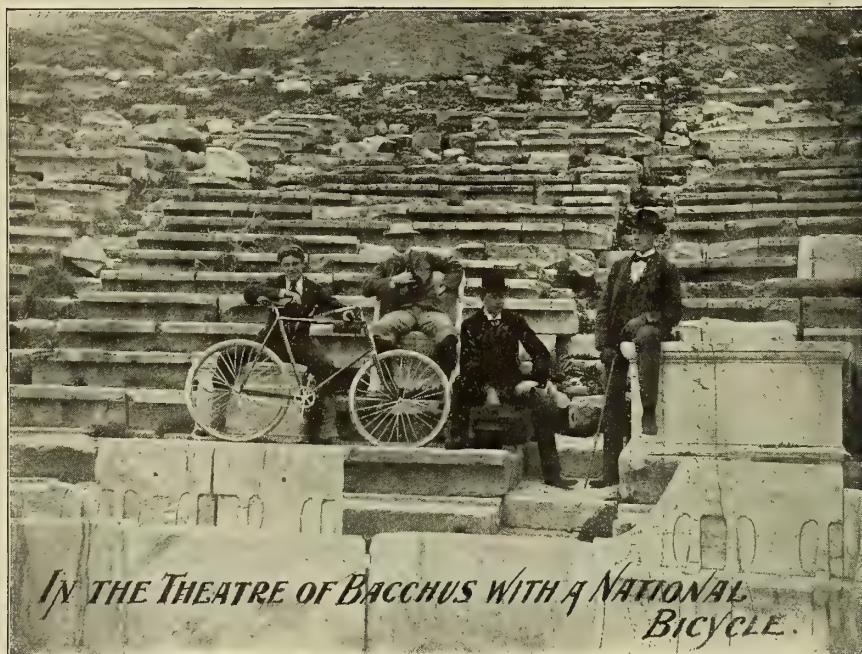
Storck is far from being one of the kind of agents who sits down and waits for business to come to him, or who even depends on his advertising to get it, although his publicity receives his careful attention, and the papers in his territory are liberally patronized. In addition to seeking business through these channels and other regular means, he gets out and creates it. For instance, if he hears of any one who is thinking of getting a new wheel, that man is seen without delay, and if possible an appointment made to come to the store at a definite time. If the prospective purchaser fails to turn up, Storck is after him to discover the reason, and if it is at all possible he gets him into the store, and then "does the rest." Previous to this time he has looked up the prospective customer's moral and financial responsibility, governing his course of action by the information received.

If any of his old customers have old wheels that they think are good enough to last them through the season, Storck makes it his business to convince them otherwise, impressing upon them the advantages of the newer models with the latest improvements. The results have been more than gratifying, and shows what can be done with intelligent and persistent application to business. Year before last Mr. Storck's sales increased 20 per cent, while this year they have still further increased 30 per cent over last year, and he announces that it is his intention to push harder than ever next season. The surprising and pleasing part of it all is that almost nine-tenths of the business has been done on high grade models, a very small number of \$25 machines being sold, and no regular models being handled under this price. Mr. Storck's arguments are simple and sound. He contends that it is impossible to build a first-class bicycle and market it at a less price than this; that old stocks are unreliable, and parts hard or next to impossible to procure, with the resultant fact that the customer is dissatisfied. This week Storck, with his usual enterprise, is exhibiting at the Sportsman's Show at Asbury Park.

The Retail Record.

Keene, N. H.—Norbeck & Burchum opened shop in Church street.

Saco, Me.—M. H. King opened store.



THE SAME OLD STORY.

PHILADELPHIA, PA.,

May 23, 1902.

NATIONAL CYCLE CO.,

BAY CITY, MICH.

GENTLEMEN:—In June, 1899, you sold me from the factory one of your \$60.00 wheels. There are plenty of cheap wheels for sale here, in fact, they almost give them away; but my experience with your wheels has been such that I would not think of looking further.

No. 15627 has been in constant use, averaging from ten to fifteen miles daily over all sorts of city streets, and all it cost me in repairs is: 35 cents for cone in pedal, 75 cents for two rods through front and rear hubs, 5 cents for two small balls, \$1.25 for new chain, and last spring two new Goodrich tires, the first ones having worn through the canvas, exploding only because of thinness. The wheel runs as easy as ever. This is a record hard to beat.

I do not know whether you have an agency here or not. If you can sell to me direct, please send circular of 1902 models. Yours truly, JOSEPH J. MAGIN.

A NATIONAL RIDER NEVER CHANGES HIS MOUNT.

NATIONAL CYCLE MANUFACTURING CO., - Bay City, Mich.

DON'T buy a tire "Just as Good."

INSIST ON HAVING THE BEST.

ITS NAME IS FISK.

A TRIAL WILL CONVINC.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday
By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] **\$2.00**
Single Copies [Postage Paid] **10 Cents**
Foreign Subscription **\$3.00**

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, AUGUST 14, 1902.

The Economy Test.

There could have been no more stringent rules promulgated than those enforced in the motor bicycle economy test of last Saturday. At first it might seem that so small a matter as replacing a spark plug, for example, could have been permitted without disqualifying, but, after all, the consideration is not without value that strict rules are good, inasmuch as they bring the efficiency of the machine into bold relief, and offer a contrast to easier rules that obtain in like contests for motor vehicles.

On this matter it is worthy of note that not a contestant who was eventually disbared from finishing objected to the rules in any particular, all seemingly taking them as a compliment to the efficiency of the motor bicycle. And that is what the event proved, in addition to its scheduled feature. Efficiency, and efficiency of the highest order, can well be pointed to on the part of the finishers. Always with the conditions of the event in mind, pride of a high order can

be granted, not only to the seven, but to those who were called off, only one-fifth of all who started, by the widest conception, being chargeable with conditions that were against almost immediate restarting.

Coming to the scheduled feature of the event, some very interesting data can be evolved in the way of running cost, either on the basis of mere performance or on the basis of cost per 100-mile pound. On the first basis the cost to the gold medal winner shows that it was but 16-100 of a cent per mile. On the weight basis the cost in gasoline to the same man was .017 quarts per 100-mile pound. To the heaviest man and machine in the event the performance cost was 11¼ cents, while the 100-mile pound consumption cost was .013 quarts.

Previous to the run there was some hope expressed that it would prove one side or the other of much debated points as to what effect the size of the cylinder and the speed of running would have on the amount of gasoline consumed. The contention on one side, on cylinder size, was that the slower running of the larger motors would give equal speed with the smaller, and thus require no more gas in the total.

On speed effects it was argued by the same side that it would take so many gas units to drive fifty miles whether the run was made in one hour or two, with the favor in the faster running because more heat units would be gotten from the high compression than the low, and heat units are what count in power generated.

A careful study of the table of finishers shows that no definite conclusion can be arrived at on either side of the contentions. They are yet open to debate, if they will not always be in that condition.

Time has Settled it.

Of the trading evil as it existed half a dozen years ago there is now scarcely a trace. What all the arguments of the day could not do to check the evil has come about quietly, easily and almost unobserved.

To-day the dealer who should take all the second-hand machines there were offered him in trade and then go out and invite fresh proposals, would be looked upon with amazement. Yet this was formerly the most natural thing for a dealer to do. If he betrayed any anxiety to dispose of the second-hands he already had before taking any more he was looked upon as unprogressive.

Volumes were written on the subject. Its every aspect was touched on, and it was

proven beyond the possibility of dispute that trading itself was suicidal, and that the trade could never become like other trades until it abandoned the pernicious practice.

All this might just as well have never been said. No serious attention was ever paid to it, and no dealer ever stopped trading because of it.

Time's magic has wrought the wonder. Dealers now trade in second-hands because it pays them to do so, and not because their competitors indulge in the practice. It is a plain business proposition, a matter of dollars and cents, and it is settled on its merits.

If the machine offered is an undesirable one, or too high priced, or the stock already in hand is larger than is deemed wise, regard being had for the time of year, it is declined.

But if the reverse conditions prevail the reflection that the practice is a pernicious one "cuts no ice" with the dealer.

Why Changes are Seldom Made.

So ingrained is the habit of expecting to see changes in each season's patterns that the absence of radical departures from standard construction during the past few years has failed to kill it.

Almost on the threshold of a new manufacturing season, we naturally wonder what has been or is being prepared for 1903 at the various factories. And yet we know that few changes will be made, and that even these will be kept "under the hat" for some time, instead of being widely heralded, as was once the custom. "Mum" is the word all along the line. The greater the novelty the less there is likely to be said concerning it.

This change of front has not come about suddenly or by chance. With many concerns it is a settled and well considered policy.

Viewed solely from the selling end of the business, changes are highly desirable. They stimulate sales in a degree unequalled by any other method. With a knowledge of changes to precede him the travelling man finds his task a much easier one; his customers are interested and give his eulogy of the new models close attention, and, as a rule, reward him with more generous orders than usual.

No one will deny that the changes and improvements, the "talking points," as they are still lovingly termed, did a world of good in the old days.

They kept riders keyed up to the top notch and always ready for the new goods. Topics

of interest and freshness were never wanting at such times, and all, or nearly all, riders were partisans, devoted to their own machines, slightly contemptuous of others. There was no lack of discussion, and no discussion lacked interest.

But times have changed, and machines with them. There is now not only a question as to the wisdom of making changes, but a difficulty—in some cases almost amounting to an impossibility—in hitting upon changes that can be made.

It is quite within bounds to say that the limit of improvement in the ordinary bicycle has been almost if not quite reached.

It would serve no good purpose to either lighten it or to increase its weight; to change the height of the frame or of the crank hanger; to increase or diminish the size of the sprockets wheels or the diameter or shape of the tubing or the width of the handle bars. Wheel sizes are eminently satisfactory, the present type of bearings can scarcely be improved upon. Front fork shapes are right, the rider is properly positioned in regard to his work. Saddle post and handle bar fastenings are equally unobjectionable.

In short, the features which in the past furnished the material for nearly all the changes made are no longer matters for discussion. Approximate perfection has been evolved, and henceforth changes in these respects must be made for the sake of change solely.

The designer must turn in other directions when seeking for means to improve the modern cycle.

He must turn from the chain driven, rigid frame, fixed gear machine and devote his time to departures from this standard of construction, leaving the former as it stands to-day.

In evolving new types or in perfecting those already evolved he will find ample scope for his genius.

Concerning Side Lines.

Although thousands of bicycle dealers throughout the country have had the foresight, the energy and the capital to branch out into side lines, such as sporting and athletic goods, cameras and photographic supplies, graphophones and similar articles, there are still many who have stuck exclusively to the bicycle trade.

Not a few of those who have followed each of these policies have been eminently successful, doubtless because of their superior acumen and business ability. It would,

therefore, be unwise to assert that the dealer who sticks exclusively to the one line is making a mistake, for the personal equation enters too largely into the problem; nevertheless, it is self-evident that the tradesman of average ability who has several lines of goods that are seasonable in rotation during all the months of the year stands a far better chance of clearing a profit on the whole year's trading than if he had only one line whose selling season extends over at most not more than six months.

As a matter of fact, the best season for selling bicycles, and the only one during which a net profit can be made on the sale of bicycles and sundries, is limited to about three months in the early part of the year. During the remaining nine months the exclusive dealer must live on the profits made during that quarter, and on such income as he can derive from the sale of supplies and the care and repair of bicycles.

The active profitable season for bicycles has already passed for the year of 1902. Scattering sales of machines may be expected throughout the remainder of the summer, and there will be much repair work for the shop—which, with not a few dealers, has become the large end of the business—but, instead of sitting down with the too common summer lassitude and complaining of the weather conditions that reduces bicycle sales to a minimum, the dealer will be taking a step in the right direction toward a profitable winter's business if he will carefully think over the local conditions and his own position with a view to adding some side lines of goods that will be seasonable in the fall and winter months.

His second step will be taken when he writes for catalogues of the goods and gets trade quotations which will enable him to select his lines.

Attention to Details.

One of the things which will mark the difference between next year's makes of motor bicycles will be the thought given to some of the details in fitting up parts and their connections.

One of those small things which add to comfort as a whole is the size of the filling hole on the gasoline tank. As at present made, in a number of instances the opening of the screw cap is so small that one is almost obliged to carry a funnel with the machine in order to assure having a small enough spout to go into the opening. Gasoline can now be had at almost any cross roads, but the only available funnels are

always too large, and it becomes a regular slight of hand performance to avoid wasting the fluid as it is being transferred from the measure to the tank.

In connection with the screw cap, there should also be some kind of a non-return valve. Boring a hole in the cap to give the necessary vent is expensive, and often disagreeable to the rider. Expensive because when the tank is filled gasoline invariably escapes for the first few miles. If the cap is anywhere near the rider there comes the disagreeable feature. The escaping gasoline saturates the nearest clothing. The non-return valve will also be a means toward inspiring a sensible ruling in insurance and transportation.

Another point that could receive attention is the ejecting of the used lubricating oil. Some motor bicycles are now equipped with devices for oiling without leaving the saddle, but are without means for discarding the old oil. To be sure, everybody riding these machines does not ride a century without dismounting, but it is a fact that just as soon as the owner becomes conversant he is sure to take rides of 60 to 100 miles without realizing the distances.

It may be argued that he is fairly certain to dismount during some part of the ride and can then attend to lubrication. As a matter of fact, this is usually forgotten at just that opportune time, and only realized when everything else is running smoothly.

A gasoline drip of more than the usual design would also be a distinct advantage at most needed times. As at present applied it is too often a small screw, which is tight more from the fact that it is enamelled in position. The first time of removal breaks the coating of enamel, and after leaking is difficult to stop.

Other points would come to mind with thought and from experience, but one more that ought to receive attention is the securing of the pulley on the crank shaft. As at present carried out, the method is to screw one or two nuts on the end, jamming them against the outer face of the pulley hub. The work could be better done and give better all round results if the pulley locking was on the plan so long used at the outer end of the pedal shaft. That is, by the application of a D or a tongued washer between the lock nut and the pulley hub.

An English clergyman, aged 40, has ridden 301 miles over the road in 24 hours. His principal diet, it is stated, was raw sausages. Query: Is he going to the dogs?

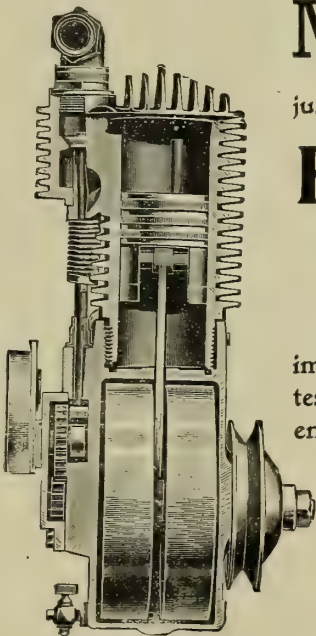
ALL RECORDS BROKEN
FROM 1 TO 43 MILES BY
ALBERT CHAMPION
ON AN
ORIENT RACER
PACED BY AN
Orient Motor Tandem.

43½ MILES, 293⅓ YARDS IN ONE HOUR.

Orients cost more than other wheels, but they are built for speed and durability, and it pays in the end to buy the best. Agents offer other machines because they can make a larger profit. Do not let them make it out of you.

WRITE FOR CATALOGUE OF BICYCLES AND MOTOR MACHINES.

WALTHAM MFG. COMPANY, = = Waltham, Mass.



1½ Horse Power.

MOST of the successful motor-bicycles of Europe are driven by the justly famous

Kelecom Motors.

For instance, in one of the important hill-climbing contests 12 of the 14 different entries were fitted with Kelecom Motors, and of course the Kelecom won.

WE ARE SOLE
UNITED STATES
AGENTS.

Write us for prices.

EXPERIMENTS ARE COSTLY.

Avoid them by using a motor that has proved its ability to "get there" under any and all conditions.

A. H. FUNKE, 98 Duane St., New York.

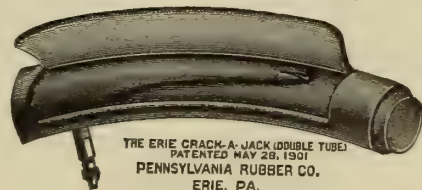
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK (DOUBLE TUBE)
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.
ERIE, PA.

Don't close
until you
consider
our entire
line.

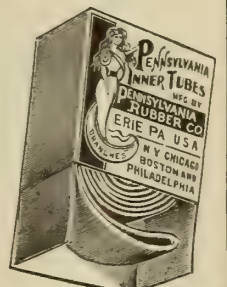
**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO
PHILADELPHIA

BOSTON



EDMOND WINS ECONOMY TEST.

(Continued from page 520.)

sides. Here, too, was an instance where a few minutes' allowance would have remedied matters.

The next to stop was F. Thourot, mounted on a machine of his own make, the feature of which is a clutch permitting the motor to



F. E. MOSKOVICS.

run independent of the drive. Mr. Thourot's stop came at eight miles from a creeping tire which eventually cut off the valve stem. This can be counted as another case of stopping beyond recall.

The next stop was at the ninth mile, due

placing of spark plugs is neither a long nor an unusual affair.

The next two stops furnished examples of each side of the question. J. M. O'Malley stopped at 21 miles because of a broken cotter pin in the intake valve stem, which



J. H. WISE.

would have required some little time to replace, while N. P. Bernard was stopped at 22 1-3 miles because the pedalling chain, which had no influence on the running of

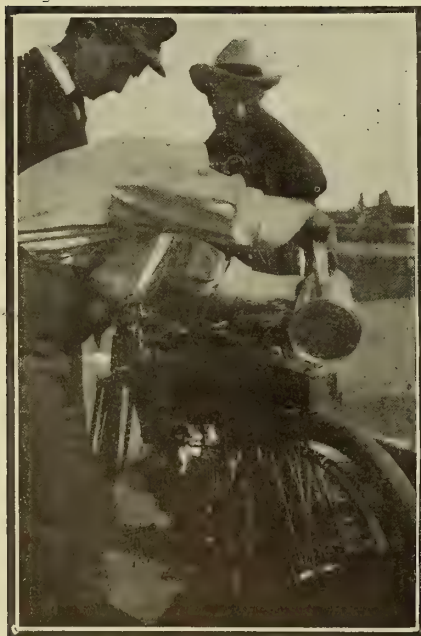
cause of a punctured tire. The former, a youth of 14, showed decided ability in handling his machine, and had rigged up his bicycle with an extra tank, with the idea of going through for a blue ribbon. Lubrication caused his eventual troubles, requiring him to pedal beyond the limit allowed.

The seven to finish in every instance made



14 YEAR OLD JAMES FARLEY.

the run without a stop, and the only thing to mar the record was the act of an over-officious individual, who called D. D. Miller, on an Orient, off the track at 45 miles. To many who had been closely watching all the machines this appeared as particularly fortunate, as his belt was slipping all the time,



FILLING UP BEFORE THE START.

to a fouled spark plug in the bicycle ridden by F. J. Phillips. R. Douglas at 12 1-3 miles came next, from the small cause of a belt slipping off one of the pulleys. Stop No. 7 was on the part of H. P. Macrery at 18 1-3 miles, caused by a broken inner end of the porcelain in the spark plug.

Here were three stops in succession the causes for which were all so trivial that it seemed a hardship to call the men off the track. The belt could almost have been put on again while running slow, and the re-



MEASURING CONSUMPTION AT FINISH.

the bicycle, slipped off—an affair of a moment to replace.

The next stop was the only one coming from using up the ten minute allowance. It was on the part of C. H. Martin, at 24 miles. Mr. Martin's lubricating device developed a balky streak that finally led to an enforced abandonment under the rules.

The last two to stop were James Farley, at 25 1-3 miles, and C. Mankowski, at 28 2-3 miles, the first for pedalling over half a lap and the second from the annoying outside



COLUMBIA MEN PINNING ON THEIR NUMBERS

and at 45 miles was two miles behind the sixth man to finish. With the slipping belt he could not go faster, and would have dragged the event into a serious encroachment on the racing to follow. As if to emphasize his good fortune, he had hardly pushed his machine up to the gasoline measuring stand when down went his tire. It was a nice question whether the cause for the tire's collapsing occurred after he had finished or some time previous to that 45-mile schedule.

In the table of consumption Mr. Miller's gasoline score is figured at one-ninth addition to the actual amount used for the distance he rode. This brings him into third place, and it is probable that the committee in charge, owing to the peculiar position of the case, will award bronze medals to F. E. Moskovics and G. M. Fisher, jr., both on Orions, who were tied for position next to the arbitrary consumption figured for Mr. Miller.

In establishing the record for the gold medal it is a peculiar fact that the difference of consumption between E. J. Edmond, on an Auto-Bi, the winner, and that of the silver medal winner, J. H. Wise, on an Orient, is the largest that figures between any two others in the order of their finish, being 13-16 pints. The amount of gasoline used by Mr. Edmond shows a gasoline cost, at 15 cents per gallon, of 8.1 cents for the 50 miles, or 6.2 miles for 1 cent, certainly particularly cheap travelling.

The only entrant who made his appearance and did not start was prevented by an unfortunate accident to a machine. Earl Holley and F. J. Phillips had come on from the Holley factory, arriving at the track just before noon. Mr. Phillips, in trying his bicycle around the track to become familiar with its banks, ran off at the pole, being thrown in the act. The result was a broken handlebar, thus putting one of the machines out of commission. With but one bicycle between them, Mr. Holley did not get up, Mr. Phillips using his machine, having escaped from the fall without the slightest injury.

The event was one which will redound to the credit of motor bicycles, as not only did it show a remarkably low gasoline consumption accurately measured to the ounce, but it developed into an efficiency test of the severest kind, not the slightest leeway being given or taken by any of those who finished.

The official schedules and figures are subjoined.

Mud Guards not Necessary.

Whether a bicycle is complete without mud guards came up for argument before an English judge recently, and even in the land where such accessories are supposed to be universal the burden of evidence was against the contention. During the hearing the discussion broadened considerably. "What is a complete bicycle?" was the question finally asked.

A purchaser was sued for a small balance on his machine, and he claimed that payment was withheld because he had not received mud guards. "Is a bicycle complete without the mud guards?" the judge asked. Upon being answered in the affirmative by the dealer, he continued:

"What is the practice of the trade? If I were buying a bicycle I should expect mud guards and everything else."

"We sell more machines without mud guards than we do with," the dealer replied.

The Judge: "This man says he bought a machine from you complete, and you say that you did not mean that he should have the mud guards with it. If I buy a complete bicycle from you, what would you send me?"

Plaintiff: "We should ask you first of all what you mean by complete."

The Judge: "I should say I wanted one fitted up in the most complete way a bicycle can be made. That means everything."

Plaintiff: "There is no limit to a complete bicycle."

The judge finally gave judgment for the plaintiff for the amount claimed.

The two greatest powers on earth are electricity and printers' ink. Electricity, as harnessed and controlled, by man, moves what it is qualified to propel; but printers' ink has no limitations. The one moves inanimate things; the other moves man, the most difficult of all things, animate or inanimate, to be moved. And printers' ink goes wherever man is found.—(Ex.)

IT IS ESTIMATED THAT

97%

OF

Motocycle Troubles

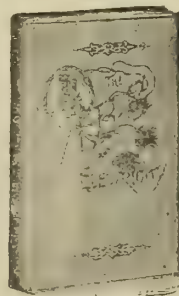
ARE

ELECTRICAL TROUBLES.

It follows that, at least, an elementary knowledge of electricity will go far towards making for the fullest measure of pleasure and satisfaction.

"The A B C OF Electricity"

will impart this very knowledge.



108 PAGES; 36 ILLUSTRATIONS.

The book is entirely non-technical and can be understood by the man who does not know "the first thing" about electricity.

PRICE, 50 CENTS.

FOR SALE BY

THE GOODMAN COMPANY,

123-125 Tribune Building,

NEW YORK.

Name.	H. P.	Bicycle.	Pints consumed.
E. J. Edmond, Buffalo, N. Y.	2	Auto-Bi.	4 5/16
J. H. Wise, Mineola, N. Y.	2 1/4	Orient.	5 1/2
David D. Miller, New York M. C. C.	2 1/4	Orient.	5 3/8
F. E. Moskovics, New York M. C. C.	2	Orient.	6
G. M. Fisher, jr., Alpha M. C. C.	2 1/4	Orient.	6
D. B. Roberts, East Hartford, Conn.	2 1/4	Columbia.	6 1/4
Walter J. Ziegler, Elmwood, Conn.	2 1/4	Columbia.	7 3/8

*Called off in error at 45 miles; consumption figured for 50 miles.
All finished the 50 miles without stops.

Name.	H. P.	Bicycle.	Miles ridden.	Cause for stopping.
C. Mankowski, New York M. C. C.	2	Mitchell	28 2/3	Rear tire punctured.
James Farley, New York.	1 3/4	March	25 1/3	For pedalling.
C. H. Martin, New York M. C. C.	2 1/4	Merkel	24	Lubricating trouble.
N. P. Bernard, Hartford, Conn.	2 1/4	Columbia	22 1/3	Pedalling chain slipped off.
N. M. O'Malley, Hartford, Conn.	2 1/4	Columbia	21	Cottar on intake valve came out.
H. P. Maceray, Alpha M. C. C.	3 1/4	Orient	18 1/2	Broken spark plug.
Roland Douglas, New York M. C. C.	2	Auto-Bi	12 1/2	Belt slipped off.
F. J. Phillips, Bradford, Penn.	2 1/4	Holley	9	Fouled spark plug.
Frederick Thourot, New York M. C. C.	2 3/4	Clutch	8	Tire crept and cut valve stem.
Willis F. Seaman, Mineola, L. I.	2	Mitchell	7	Cloth used for saddle caught in rear wheel.
E. Hafelfinger, New York M. C. C.	1 1/2	Royal	4	Drive chain broke.
C. G. Arnold, Alpha M. C. C.	2	Merkel	2	Clogged gasoline tank air vent.

"The A. B. C. of Electricity" will aid you in understanding many things about motor bicycles that may now seem hard of understanding. Price 50 cents. The Goodman Co., 154 Nassau street, New York. ***

The Hartford Rubber Works Co. are this week holding the annual conference of the executive officers, branch managers and travelling men at their factory in Hartford, Conn.

DEMAND IN ALGERIA

Heat and Hills Hurt Sale of one Form of Bicycle and Help the Other.

According to United States Consul Kidder, at Algiers, in a report to the State Department, Algiers is not a specially promising field for American bicycles and automobiles. "Algeria," he says, "is a country specially adapted to the use of automobiles, both on account of its excellent roads and the steep grades which prevail. As far into the country as roads are built they are constructed with great care and kept continually in repair. Many of them are military roads, adapted for the rapid movement of soldiers, including, of course, artillery and munitions, the railroads being wholly inadequate for such purposes. Other roads are almost as good, owing to the necessity of bringing heavy loads of wine from the vineyards of the interior to the seaboard.

"On account of the frequent and heavy grades, bicycles are not used here to the same extent as in more level localities. Bicycles are used and American makes are favored, but in my opinion the demand will never be sufficient to induce our manufacturers to make any great effort to control the market.

"The city of Algiers has a population of 100,000, about one-half of whom are of Arabic descent and cannot be considered as possible purchasers. The other half, of European birth and descent, according to the best obtainable estimate, own 900 automobiles and 300 motorcycles. The automobiles are exclusively of French manufacture.

"American machines have never been tried here, and it is therefore impossible to give an opinion as to the future prospects for American trade. Aside from a natural prejudice in favor of France, and also the absence of customs duties upon the French article, there is no reason why automobiles manufactured in the United States should not be sold here as bicycles and many other machines have been sold.

"Algerians are favorably disposed to American manufactures of all kinds, especially machinery."

Hansen to Attack 24-Hour Record.

A. A. Hansen, who recently established a 1,000-mile motor cycle record over the Lake Minnetonka course, is after more laurels in the motor cycling line, and this time will try to establish a record for a twenty-four hour run.

Hansen will ride a Mitchell from Minneapolis to Chicago and return. Of course, the ride from Minneapolis to Chicago and return will be incidental, as the feature of Hansen's engagement will be his twenty-four hour ride in the city of Chicago.

The ride will be made over the Garfield Park cement track, which is three laps to the mile, and well banked. Hansen expected to leave for Chicago on Wednesday,

and may start on his twenty-four hour ride at Garfield Park about August 20.

The performance will be strictly official. He will use his Mitchell machine on the entire trip. Hansen expects to make 600 miles or better on his twenty-four hour effort.

Hansen will consume about three days in making the trip from Minneapolis to Chicago. Eddie Farr, of Minneapolis, will accompany Hansen on his ride to Chicago and return. The route they will take is 517 miles in length. No effort at making time is to be made on the run to Chicago.

Haynes's Sensational Ride.

Wherever the motor bicycle makes its appearance as one of the events on a program it at once becomes the point of interest around which the other events centre. This was the case at the annual outing of the Minneapolis Cycle Trade Association, held last Thursday. An interesting program made up the day's pleasure, the opening



H. S. HAYNES.

event being the seventeen mile motor bicycle road race to the point where the outing was held.

The course was from Lake Calhoun, Minneapolis, to Excelsior P. O., Lake Minnetonka. H. S. Haynes, on a Holley, was the winner, covering the course in 32 minutes and 10 seconds. T. L. Bird was second, in 33 minutes 25 seconds. In all, six men finished out of eight who started. Of the other two, one was out from a punctured tire and the other from a fall. The slowest time was 37 minutes 30 seconds. The showing of the fifth man in was remarkable, as he had never been on a motor bicycle until Wednesday night.

The time for the seventeen miles, 32:10, was really sensational, considering the condition of the road and a high headwind which blew down the course. The contestants were not allowed to use the bicycle path, and the fact that all of the six who finished rode close to thirty miles an hour, while the winner rode at a thirty-two mile clip, furnished ground for discussion all afternoon among the riders and their friends.

"RICH YOUNG MEN"

Motocyclists Appear to be so Considered and are "Plucked" Accordingly.

"If it isn't exactly highway robbery," remarked a New York motocyclist who was caught in last Sunday's downpour, "when a man pays 50 cents for a privilege of stowing a motor bicycle overnight in an odd corner of an automobile depot, it seems mightily like a form of pocket-picking.

"Just when the rain was coming down heaviest, and while I was on Bedford avenue, in Brooklyn, something went wrong with my machine. I sought a bicycle shop, but those that I located were shut tight, a livery stable declined to harbor a bicycle that used gasoline, and the automobile station on Fulton street, just off Bedford, proved the only available refuge. My bicycle remained there overnight, or just about fourteen hours. When I sent for it the next morning the automobile gentlemen asked and obtained 50 cents. Of course, the amount in itself was trifling, but for the service rendered it struck me as being akin to robbery.

"The automobile people did not lay a hand on the bicycle. The man in charge simply pointed to a corner between the wall and a carriage where nothing else could be stored. He did not make a move toward handling the machine, did not wipe off a drop of rain, did not even have a jack in which the machine could be stood upright or tested. They charged 50 cents for simply permitting it to occupy less than four feet of their space that could be used for no other purpose. Almost any bicycle store would afford the same accommodation for 10 cents, and for 15 or 25 cents more would have had the machine wiped dry."

"There's nothing particularly strange in that," interjected a motocyclist of more experience. "Just now we seem to be considered 'good things' fit only for plucking. I was with a party a few days ago and had an indifferent lunch at an alleged shore resort where formerly we paid 50 cents. This time they taxed us \$1, and when we questioned the charge we were coolly informed that 'rich young men like ourselves ought not mind paying a dollar.' I suppose we'll have to conceal our motors and shed our leather coats hereafter."

Through Sleeping Car Line to Grand Rapids, Mich.

A Pullman Sleeping Car of latest construction is now attached to New York Central train leaving Grand Central Station at 4:00 p. m., daily, running through over the Michigan Central, arriving at Grand Rapids at 12:55 p. m., next day, connecting in Union Station for all points in Western Michigan. For information and sleeping car reservations inquire of New York Central Agents.

WELL BEHAVED BICYCLE

Its Evolution From a "Juggernaut" to Model of Propriety—Automobile's Turn now.

On Tuesday last a man was stuck by a bicycle in Asbury Park and received injuries from which he died. The accident was reported to be unavoidable.

A few days ago a boy who was roller skating in Central Park ran in front of a bicycle and was thrown and badly hurt. The rider was not at fault.

These facts are cited by way of illustrating the character of such accidents as have occurred this summer among the cyclists, says the Sun, and also for the purpose of comparing the wheelmen's present misfortunes with those of the past, as regards their number and severity. Such a comparison is interesting mainly for two reasons. First, it shows the excellent results which the wheelmen have been able to accomplish, persuaded, to some extent, no doubt, by the bicycle police, but largely by their own respect for the rights of other people; and, secondly, it should afford a cause for reflection and also no small amount of consolation to those who regard the invasion of the wheel's rival, the automobile, as a permanent menace to the safety of other vehicles.

Six years ago the wheel was commonly looked upon as a prolific source of danger not only in the metropolis but throughout the land. Bicycle mishaps were of everyday occurrence, and many of them were fatal. It was not unusual for a score of serious accidents to be reported in and about New York during a single week. Some of them were due to the riders' inexperience, while others, apparently, were unavoidable; but a vast majority of the casualties resulted directly from recklessness on the part of the wheelmen.

How to reform the offenders and make them understand the danger of their course was the problem. Fines were imposed to the limit of the courts' power, and, in some cases, the guilty were threatened with a term in jail. Resolutions were passed in several of the more prominent cycle clubs aiming to discourage lawlessness among their members, while non-wheeling citizens resorted to divers methods calculated to bring the unruly to terms. All of these measures were, to a greater or less extent, effective temporarily, and, very likely, they were instrumental in bringing about the desired condition.

There was, however, no appreciable diminution of the number of accidents until the offending wheelmen themselves began to appreciate the deplorable and inexcusable nature of their acts, and also to understand that their continued malfeasance would, sooner or later, do irreparable harm to cycling. When this fact became thoroughly comprehended the ranks of the scorchers were depleted, cycling was elevated in the

popular estimation, and the wheel was no longer regarded as "an agent of evil." The weekly average of accidents in the neighborhood of New York was reduced to not more than half a dozen in 1898 and 1899; and during the present season, even in the month of July, when recklessness usually reaches its high water mark, the average of such occurrences in this city has not exceeded two a week, despite the fact that many thousands of wheels are in use here daily.

Of course, other reasons than those mentioned may be ascribed for the wheel's good behavior in the last two or three years; but the one which we have sought to emphasize cannot be overlooked. Is there any good reason why the automobile, whose use some people are now seeking to suppress on the ground that the machine imperils human life and is, consequently, "a public nuisance," should not be able to imitate substantially the career of the wheel?



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

Motor Bicycle Breaks Classic Record.

In the ruling days of the motorless bicycle the feat of feats in England was the end-to-end ride—that is, from Land's End to John o' Groat's, a distance of 888 miles. The hills in many parts are long, steep and numerous, with roads as bad as they well could be in many places. G. P. Mills was the most wonderful man on this record up to the time when he practically put an end to all attempts by going through in 3 days 5 hours 49 minutes.

Of the motor vehicles and motorcycles that have been over this route, none have succeeded in equalling G. P. Mills's time until E. H. Arnott, on a 1¼ horsepower Werner (1902 model), started from Land's End on Sunday, July 19. Through the highlands of Scotland the rain came in all kinds at all times.

The full time from start to finish, including all stoppages of any description, such as sleep, etc., was 2 days 17 hours 45 minutes. The time, less stoppages for sleeping and eating, for actual riding was 47 hours 10 minutes.

TUBE MAKING METHODS

Some of the Interesting Processes Employed in the Manufacture of Tubing.

Of all the elements which enter into the makeup of bicycles, few are more interesting in their making processes than seamless tubing. There are several methods of seamless tube drawing that are or have been in common use.

One of these is the process where a tube, by a very peculiar rolling operation, is coaxed out into an annular form from a solid rod of metal, being meanwhile punctured by a solid mandrel. Another process is the hot puncturing of a short ingot which is afterward reduced in dies over a mandrel by numerous operations in the familiar draw bench. Still another is the working down, by the same draw bench methods, of hollow cast ingots.

Entirely different from the foregoing methods was the process introduced by some large tube makers, which consisted of first drawing a shallow cup from a flat, circular blank of sheet metal by the same sort of double action presses as are used for drawing sheet metal utensils, where the edges of the blank are held from wrinkling by a blank holder, under heavy pressure, while the punch pushes the work through the die and forms a cylindrical cup of somewhat less depth than diameter.

This cup was afterward reduced in diameter and increased in length by a double action process, using shell blank holders at one or more operations. This was followed by a single action drawing process, in several operations, after the same manner as cartridge shells are made. After the cup had been brought to the length of several diameters by this last mentioned process, combined with a broaching action, which draws the side walls thinner than the original metal, the end was cut off and the ordinary draw bench process used for finishing, finally producing a tube some twelve to sixteen feet long.

This draw bench work consisted in reducing the end of the tube for a few inches in a swedging machine, or otherwise, so that it would freely enter the die. Afterward it was pulled through such die with a short mandrel inside of it, held by a pull rod extending back from the tube and secured to the frame of the draw bench.

Another process was similar to the one last described, except that the tubes were made from sheet metal of about the thickness of their final walls, very little broaching, or squeezing thinner, being done, the blank being of a proper size to produce a short tube only—that is to say, tubes from ten to thirty inches in length, which could be used directly for bicycle frames rather than draw them longer and then cut them to suitable length and to order. Another peculiarity in this process was to do no draw bench work at all, completing the tube with the bottom left on it, afterward cutting off the bottom.

When the Oil Can Cap is Lost.

The following hint about an improvised screw cap for cycle oilcans will no doubt be useful, says a writer in Cycling. The little brass screw cap of the ordinary oiler is a thing not always easy to replace if lost, and in such a case most men simply invest a few pence in a fresh oiler and throw the old one aside.

It is quite easy, however, to improvise a serviceable stopper out of wood which will quite answer its purpose of keeping the oil from leaking out and making a mess of one's toolbag.

Rummaging about one wet day at home we turned out no less than four oilers minus their caps, which for that reason had been discarded. We happened to be in want of an oiler, and the nearest cycle shop was a

couple of miles away, so we decided to try to make new caps for the old ones and bring them into use again.

From a bundle of dry, well seasoned hazel twigs one of about three-eighths of an inch in diameter was selected and cut into lengths of about three-quarters of an inch. With a fairly fine bradawl we bored a small hole at one of each length and about half way up the centre. We then screwed one of these caps onto each oiler, making the thread on the nozzle cut its own way into the wood. Should the hole get loose from frequent usage it is quite easy to make another cap, but with care one of them ought to last for some time, especially if the wood be hard and well seasoned and the thread on the nozzle of the oiler be deep enough.

Westerners Returning From New England Seacoast and Mountain Resorts

To Pittsburg, Pa., and points on the Pittsburg & Lake Erie Railroad, will find the schedules and through train service, via Boston & Albany and New York Central, thoroughly up to date. Pullman Sleeper leaves Boston 10:45 a. m. daily, except Sunday, arriving Pittsburg 6:02 next morning. Dining car service enroute at convenient hours.

Copy of "Westbound," containing detailed schedule and train service of this and other through sleeping car lines west over New York Central lines, can be obtained upon application to Ticket Agent or Passenger Department, Boston & Albany R. R. ***

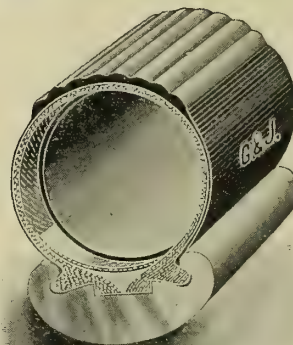
IMMEDIATE DELIVERY!

We can make Immediate
Delivery of

MARSH MOTOR CYCLES

We have the largest factory in the United States devoted exclusively to the manufacture of motor cycles, and have a proposition for agents that is to say the least, interesting. If you are out to make money, write us at once and we will let you know how.

MOTOR CYCLE MFG. CO., BROCKTON, MASS.

G & J TIRES

MADE FOR THOSE WHO WANT THE BEST.

They are detachable, double tube; are made from the best materials; ride easiest and wear longest. Anyone can repair them anywhere.

G & J TIRE CO.
INDIANAPOLIS.



Model 16. Price, \$1000.

The New BUFFALO TOURING CAR with TONNEAU.

IDEAL AUTOMOBILE FOR FAMILY USE

Equipped with Every Modern Feature.

QUIET FOR CITY USE.

SPEEDY FOR TOURING.

AN EXCELLENT HILL CLIMBER.

E. R. THOMAS WORLD'S RECORD MOTORS.

HIGHEST EFFICIENCY.

THE AUTO-BI

HOLDS WORLD'S RECORDS.

Never been beaten by motors of double the power.

Buffalo Automobile & Auto-Bi Company,

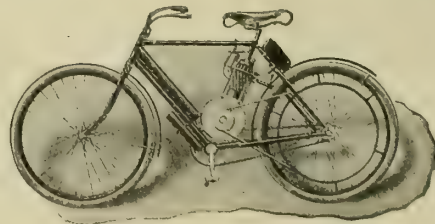
1192 Niagara Street, BUFFALO, N. Y.

MR. C. S. HENSHAW, Boston Representative, 174 Columbus Avenue.

MR. E. J. EDMOND, New York Representative, 29 West 42d Street.

Catalogs on application.

Thomas "AUTO-BI." Original Motor Cycle



Model 4. Price, \$175.
" 3. " 150.

AUSTRALIAN ADVICES

Motor Bicycles and Two-Speed Gears Growing in Favor—Strong Reasons for it.

Melbourne, July 10, 1902.—Many of the cycle firms have during the present winter and in the consequent slack time been paying particular attention to the motor, as it applies to the bicycle. It is recognized here that, comparatively speaking, the motor car can only command a very limited sale, because of the very small proportion of the leisured and moneyed class of the population. It is thought, reasonably enough, that a much larger number will be able to afford \$200 to \$300 for a motor bicycle, where \$1,500 and over for a car would be utterly impossible. I have heard it stated, however, that motor wagons for the carriage of general merchandise and produce ought to have a future in this continent, and, from the but too frequent recurrence of blasting droughts, should be immeasurably cheaper than horse traction. A few of the agents and repairers are building their own motor bicycles, engines and all, while others are importing the motor proper, which will be fitted to a specially constructed frame or to existing bicycles. This latter plan is not advocated by practical men here. They hold that the heaviest roadster is not built to stand the increased and peculiar strain to which it is liable by a motor, and consider it not only cheaper but more satisfactory to assemble a special frame than to attempt to sufficiently strengthen an ordinary roadster.

There is a growing interest in two speed or multiple geared hubs and other devices designed for the purposes of accommodating the machine used (in the matter of gears) to the classes of country met with in ordinary wheeling. The phenomenal success of the Two-Speed Hub Co. in England during the past three years is not without its effect, and I have marvelled greatly that but little notice was taken of the device in principle in the United States until very recently. Two years ago this month I imported a two speed hub from England, not because I had heard so much about it then, but because I foresaw that a really practical device of this nature would prove an invaluable adjunct to present day cycling. That particular hub has been driven an approximate distance of 12,000 miles and is still in good going order yet! You probably know of the nature of the gearing of this hub. It is beautifully made, wonderfully fine, and runs perfectly. The high gear is the normal one, with a drop of about 23 to 25 per cent.

My first fear was that the small gear wheels would first wear out, but as a matter of fact the teeth of the chain ring first showed signs of wear, and to accommodate a new chain they had to be ground on two occasions, when it would stand no more of that treatment. I then had recourse to a

novel experiment in the form of changing the entire driving parts from the right to the left hand side of the machine—that is to say, I changed round the crank shaft and cranks, chain wheel, reversed the back wheel in the forks, fitted a new chain, when the machine ran as sweetly as when new. Not only did I obtain new chain bearing surfaces on both wheels, but I was also using new faces in the internal mechanism. How much longer distance it will serve me I know not; but it is running splendidly in this form for over 700 miles. I have this much faith in this adjunct that I have already had another machine fitted with a similar hub, and which has been given about 3,500 miles' use. It is giving equally as good work as the first one, as are about forty others which have been disposed of through the splendid results which I have obtained from mine. By a recent number of the Cycle Trader I notice that multiple speed devices are making wonderful progress in England. From my extensive experience in this connection I do not advocate for more than three speeds, coupled with an automatic coaster. The gears in use by me now are 77 inches high and normal, changeable down to 58 for power up stiff hills and as a change when tackling adverse winds. I have felt at times, when everything has been in my favor—the wind, the country, the road and my physical condition—that I should have liked to have slipped up the gear in the neighborhood of the nineties. It is the next best thing to the pneumatic tire for cycling.

Spring frame machines are making but little headway, one firm only marketing them, and then only in a half hearted way. Very few are seen about.

We are in the hope of having a visit from some of the racing cracks, either from the States or the Continent, or both, and the names mentioned are Major Taylor, Jacques and some others whom Martin may bring out with him. The latter, by the way, went to France about six weeks ago, and he told me that it was his intention to induce two or three first class riders to accompany him back to Australia in time to compete in the Austral Wheel Race in November next.

Making an Exhaust Lifter.

Lifters for exhaust valves are mighty convenient things at times and are worth applying to motors that are not equipped with them.

The first thing will be to make a lifting lever out of a strip of one-sixteenth of an inch thick steel. This will require to be cut and bent to such a shape that it can be pivoted at one end on one of the crank case bolts, and pass directly under the valve lifter block, but not quite in a horizontal position. It will be necessary to turn or file a shoulder on one of the nuts of the crank case bolts so that the lever fits perfectly free when the nut is tightened up. A small hole can be made at the free end of the lever to take a wire cord, which can be carried to any convenient point with a ring or some other means for pulling on.

NILSSON WILL TRY

Making Ready for an Attack on Hansen's 1000-Mile Record—Bars Rain.

John Nilsson, of Minneapolis, weather permitting, will go after the 1,000-mile motorcycle record the latter part of this week. Nilsson will attempt to better the performance made by A. A. Hansen on the Minnetonka course some weeks ago.

The run will be made over the Minnetonka course, which is ten miles long, and the start will be made at noon. Nilsson says he is ready for the performance, and only awaits the weather to clear up. He has fitted up his Holley machine with a nine quart tank, which will enable him to make a continuous ride of 200 miles without reloading, and believes this will be a big advantage over the old arrangement whereby the gasoline supply is sufficient to carry the machine only 100 miles.

Nilsson expects to ride thirty-eight or forty hours before taking his first rest. This rest will consist of about three hours, "just long enough to get the numbness out of my muscles," Nilsson says. He is in splendid shape physically, and, if conditions are favorable, he expects to better Hansen's ride by a good margin.

Said Nilsson to a reporter: "I do not propose to face any rainy weather like Hansen did. I insist on clear weather, and will not start until I am satisfied that Jupiter Pluvius has stepped aside long enough for me to make the run uninterrupted. I never was in better trim, and there is no reason why I should go to pieces before finishing."

"There is just one bad feature about the path. I refer to that portion on the west side of the bridge. From the bridge to the lake the path has been neglected, and the high grass and weeds allowed to grow upon it. These weeds interfere to a considerable extent with wheels. The county commissioners, who are supposed to look after this end of the road, I believe, should have their attention called to the matter. The weeds and grass not only narrow down the path, making it almost impossible for two riders to pass each other, but to a certain degree are dangerous."

A CANADA QUADRICYCLE, \$195



Brand new. Carries two. 2 1/2 h.p. air-cooled gasoline engine. The engine alone is worth almost this amount. Get our new catalog on auto supplies, 500 illustrations.

A. L. DYKE, 1402 Pine St., St. Louis, Mo.

RACING

At Boston on August 9, 5,000 spectators saw Walthour defeat Elkes in a closely contested and exciting twenty-five mile paced race. The men started from opposite sides of the track, Elkes drawing the tape and Walthour the backstretch. On the second lap Walthour suffered an accident to his wheel and had to stop and change bicycles. Accidents in the first mile meant a restart, and the men were sent off for the second time. The second start was a fine one, the men getting away on even terms. At the mile Walthour was leading by five yards. On the second mile he increased it to ten yards, but on the third lost his gain and five yards more. Elkes increased it to fifty on the fourth mile. From this on to the thirteenth mile it was seesaw, Elkes being at this time fifty-five yards to the good. Elkes was riding faster than Walthour and was gradually overhauling him, and at seventeen miles was at his rear. Walthour then sprinted and drew away, opening up forty yards; at twenty miles the result was still in doubt, with Elkes leading by only seventy yards. Walthour was now gaining rapidly, and continued to do so till the end, winning by one lap and fifty yards in 35:30 4-5. There were eight starters in the final of the half-mile handicap. It was a fight from the gun. Two laps from the finish W. J. Potter went to the front and won in 1:02; C. L. Kimball second, E. G. Dow third and E. F. Root fourth. In the ten mile open amateur Kimball won, with Potter second, Root third, William Younie fourth; time, 25:29 4-5.

In a twenty mile paced contest between De Guichard and McFarland at Providence on August 6 the former won by $6\frac{3}{4}$ laps in 30:06 1-5. De Guichard won the toss and started from the tape, McFarland on the opposite side; a rolling start was used. De Guichard led at the end of the first mile, which was made in 1:25. He trailed until the sixth mile, then shot by and gained half a lap before the sixth mile was completed. At eight miles De Guichard was again trailing, and at nine miles went by McFarland again. The time at ten miles was 14:44. At thirteen miles De Guichard was trailing McFarland; at fifteen miles he passed the latter, who slowed up, taking a new wheel, as the saddle broke on his other. De Guichard gained two laps before McFarland got going again. The last mile was a hot battle, McFarland holding the Frenchman off for a lap. The sprint races were exciting, and in the mile handicap Hurley and Root ran a dead heat in the final. Hurley (scratch) and E. F. Root (25 yards) tied for first; W. J. Potter (25 yards) third, W. L. Losee (15 yards) fourth; time, 2:01 1-5. Hurley won the two mile open amateur, Potter taking second money, W. L. Losee third; time, 4:37.

Nearly 6,000 people saw Freeman defeat McFarland in a twenty mile paced race at

Philadelphia on August 9. Freeman led for the first three miles, but never more than forty yards ahead. McFarland jumped out in the fifth and finished the mile ten yards to the good. Freeman then took a brace and led till the end of the tenth mile, when McFarland caught him again and held the lead by forty to sixty yards for four miles, when Freeman again went by. Again in the eighteenth mile McFarland took a turn at the lead, and at its end was forty yards ahead. Then Freeman made a game struggle to pass, and during the entire nineteenth mile rode the outside of the track neck and neck with McFarland's motor. In the second lap of the last mile he forged ahead, and the race was his; time, 34:13 2-5. James Phillips won the half mile amateur in 1:04 1-5, A. Bernardo second, Daniel Trotter third, Harry Quigley fourth; time, 1:04 1-5. Phillips also won the one mile amateur handicap from scratch, John Ledyard (15 yards) second, R. Stamper (40 yards) third, George Hensler (75 yards) fourth.

The twenty mile paced race between Elkes and Freeman at Worcester, Mass., on August 8 resulted in a victory for the former, who covered the distance in 31:27 3-5. The chain of Elkes's wheel broke early in the race, but Freeman, instead of forging ahead, waited for his opponent to get a new wheel and catch his pace. Had Freeman taken advantage of the accident he would have won with ease. As it was, Elkes caught him and won by a scant margin. The two mile handicap was won by W. J. Potter; E. F. Root second, G. A. F. Brown third; time, 4:21 3-5. The third of a mile handicap went to Potter; Root second, C. L. Hollister third; time, 0:34 4-5.

Two thousand spectators saw Harry Caldwell defeat Freeman at Hartford on August 7 in a twenty-five mile paced race. The riders started on opposite sides of the track. Freeman gained a little at the start and passed Caldwell in the fifth mile. Caldwell then went after Freeman and passed him at the end of the fifth mile. As far as laps went Freeman was in the lead, and he kept the lead until the second lap of the eleventh mile, when the men were riding on even terms. In the twelfth mile Caldwell forged ahead and continued in the lead until the end, winning by a quarter of a lap in 40:28 2-5. F. Ernst won the five mile lap race on points, J. W. Lenley second, C. L. Hollister third and C. J. Cannon fourth. Time, 11:15 4-5. The race was a sprint from the start, half of the twenty entries dropping out before the five miles had been covered.

At Atlantic City on August 7 Gus Lawson defeated Munroe in a twenty mile paced race. Lawson followed a tandem, and won the race from the start. Munroe followed a single, which gave out in the sixth mile. Lawson rode alone until the thirteenth mile, when Munroe reappeared behind a tandem. Time, 32:22 2-5. Zimmerman and Sinclair won the two mile professional motor tandem

race from Boake and Babcock in the good time of 2:54.

At the same place on August 12 Ray Duer won two straight ten mile heats from Leander. The first heat was made in 16:15 2-5 and the final in 16:52 1-5. Leander punctured both tires in the first heat. Zimmerman and Sinclair defeated Thompson and Boake in a one mile motor tandem race in 1:19. In another one mile race the latter team won from the former in 1:24.

Kramer captured the final of the five mile N. C. A. championship at Buffalo on August 9, by inches, in a terrific sprint, from Taylor; time, 12:06 2-5. Fenn was a close third, with Bedell in fourth position. In the final of the one mile handicap for professionals the limit men cut out a fast pace and the scratch riders were unable to catch them. In the sprint for home Kimble, who had sixty yards, beat out Schreiber, who had the same handicap. P. Keegan, a 100-yard man, was third, and Newkirk, who also rode from the same mark, fourth. The time was 1:58. The half mile professional consolation was won by Collett, who beat out Fenn in a close finish; T. J. Grady was third and James Bowler fourth. The time was 59 3-5 seconds. George Butler defeated H. Haglan in a five mile motor bicycle race in 8:25.

The twenty-five mile paced race at Vailsburg on August 9 was won by Munroe. Accidents happened to the machines of McFarland and Butler, which put the former out of the race and killed the latter's chances of getting first place. The fastest mile of the race was the twenty-first, which was covered in 1:21. The time for the twenty-five miles was 36:16 1-5. Billington won the half mile amateur handicap, winning by a foot from A. C. Spain (90 yards) in 0:59, James Lanes (15 yards) third. There were twenty-five starters in the five mile handicap lap race (amateur), W. D. Ferguson, with 200 yards, winning, Spain (350 yards) second and Philip Wagner (300 yards) third; time, 11:01 2-5.

It would be difficult to imagine a finer afternoon's sport than that at Manhattan Beach on Saturday last. The time honored paced race was not on the card, but none missed it. Every event was fiercely fought and won almost on the tape by electrifying sprints. If there was any "hero" of the day it was Taylor. The black man was given a great reception every time he appeared, and when he won the final of the one-third mile championship he received almost an ovation. In his heat he was first pocketed, and then in the stretch was elbowed by Bowler. He finished third, but as Bowler admitted the offence the latter's disqualification gave the negro second place. Taylor finished second to Fenn in his semi-final heat, Kramer easily accounting for both his heat and semi-final. In the final Taylor and Fenn rode as a team and worked a clever dodge. The negro led Kramer high up the bank, and when Fenn came through the opening on the inside he

tacked on quickly and won by two open lengths in 45 1-5 seconds. Kimble was third, Kramer fourth and Fenn last. In the five-mile handicap. Fenn, riding alone from scratch and with the nearest man 100 yards away, won the uphill fight through a big field in the last quarter in a driving finish; Kimble (150 yards) was second, Schreiber (100) third, Rutz (200) fourth, and Bald (200) fifth; time, 11:07 4-5. Hurley's victory in the ten-mile amateur handicap was an exact counterpart of Fenn's performance. He waited until the last 200 yards, and then came with a wet sail, winning by a length in 24:01, J. W. Lindley (100) second, and W. J. Vanderveer (100) third. The two-mile motor bicycle handicap, the first event run, and viewed as a doubtful experiment, proved a whirlwindish event that brought the crowd to its feet and created an uproar of excitement. Nine men started, C. Mankowski, on a 2 horsepower Mitchell, having the limit, 375 yards. Ziegler and O'Malley, 2¼ Columbias, had 275 yards; W. P. Dugan, E. L. Ferguson, F. E. Moskovics and G. W. Anderson, all on 3 horsepower Orientals, had 125, 100, 100 and 75 yards, respectively; L. J. Wyckoff, Newark, N. J., ¾ Orient, and A. Martineau, of Ottawa, who recently won the Canadian motor bicycle championship on a 1¾ horsepower Indian, were on scratch. Wyckoff kicked vigorously, but was induced to start. Before a mile had been covered the race resolved itself into a hair raising duel between the two scratch men. The others were lost sight of. It was nip and tuck all the way until the last lap, when Martineau drew a lead of ten yards and all seemed over but the shouting. Turning into the straight, however, Wyckoff began to pick up, and the crowd to roar. He gained gradually, and twenty yards from home poked his nose in front and won by about twelve inches. Time, 3:04—a grand performance from a standing start, the men being pushed off as usual. Even the veteran scorers became so excited that they failed to place the third man.

Harry Caldwell beat Joe Nelson by more than a mile in each of the ten-mile heats of a paced race at New Haven on August 12. The first heat was won by 1¾ miles; time, 18:10 4-5. First mile ridden in 1:31. Second heat won by 1 mile 7 laps; time, 16:15 4-5. In the unlimited pursuit race Charles Schlee and C. L. Hollister defeated Ed Stander and Fred Ernst in 7¾ miles; time, 16:57. Half mile amateur handicap was won by J. Nolt (80 yards), time 59 seconds; Walter Schutter (80 yards) second, Hollister (scratch) third. Schlee won the five mile open amateur in 13:58; Billington second, W. Haggerty third, Ed Stander fourth.

The twenty mile paced race between Freeman and McFarland at Pittsburg on August 11 resulted in a victory for Freeman by half a lap. McFarland held the lead the first five miles, after which Freeman's pace pulled him to the front, and at the end of

the tenth mile he had a slight advantage. McFarland flashed again in the latter part of the race, but Freeman with a burst of speed pulled away from his rival and finished a winner in 28:16. McFarland's time was 29:26 1-5. The final heat of the mile amateur handicap was won by W. McCue (130 yards), Percy Brown (scratch) second, Charles Reel (70 yards) third; time, 2:18.

Entry blanks are out for both the annual twenty-five miles Cycle Path Handicap and the ten miles motor bicycle handicap which occur on Labor Day, September 1, under the joint auspices of the Associated Cycling Clubs of Long Island and the New York Motor Cycle Club. The prizes are of a number and character that should assure large fields of starters in each event. Blanks may be obtained of George W. Shannon, 757 Union street, Brooklyn, or F. E. Moskovics, 136 Liberty street, New York.

Joe Nelson won his fifteen mile paced race with Nat Butler at Washington on August 7. Owing to a breakdown of Butler's pacing machine before the start of the race, he was paced by Nelson's single, having been given a handicap of nine laps. Butler lost his pace twice and was lapped nine times in the first six miles. Nelson finished the fifteen miles in 21:56 3-5.

The Week's Exports.

Argentine Republic—1 case bicycles and material, \$130.
Antwerp—1 case bicycles, \$33.
Amsterdam—9 cases bicycles, \$170; 2 cases bicycle material, \$45.
British Guiana—2 cases bicycle material, \$58.
British West Indies—11 cases bicycles and material, \$199.
Berlin—1 case bicycle material, \$10.
British Australia—49 cases bicycles and material, \$2,065.
British East Indies—4 cases bicycles, \$858; 2 cases bicycle material, \$160.
Cuba—6 cases bicycle material, \$203.
Chili—3 cases bicycles, \$39.
Copenhagen—56 cases bicycles, \$496; 33 cases bicycle material, \$1,593.
Dutch West Indies—3 cases bicycles and material, \$30.
Egypt—6 cases bicycles and material, \$157.
Glasgow—10 cases bicycles, \$297.
Genoa—1 case bicycle material, \$70.
Hamburg—9 cases bicycle material, \$363.
Havre—88 cases bicycles, \$1,025; 58 cases bicycle material, \$1,345.
London—3 cases bicycles, \$97; 41 cases bicycle material, \$1,717.
Liverpool—194 cases bicycles, \$2,586; 5 cases bicycle material, \$485.
Malta—1 case bicycles, \$90.
Newfoundland—2 cases bicycles and material, \$101.
Odessa—11 cases bicycles and material, \$200.
Rotterdam—1 case bicycles, \$30; 18 cases bicycle material, \$421.
Southampton—7 cases bicycle material, \$1,247.
Stockholm—1 case bicycle material, \$20.
Swansea—1 case bicycles, \$20.
Tasmania—1 case bicycle material, \$115.
Turkey in Asia—4 cases bicycles and material, \$152.



DE LONG Motocycles

ALWAYS GIVE SATISFACTION.

There are no tanks or
bags attached to it.

FULLY PROTECTED BY PATENTS.



PRICE \$200.

INDUSTRIAL MACHINE CO.

SYRACUSE, N. Y.



HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

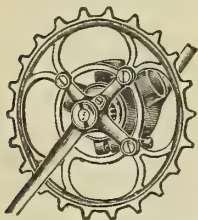
Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE of BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

**"D. & J." HANGERS**

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The 1902 BRECKENRIDGE GAS LAMP

—AND—
The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY

THE NATIONAL CEMENT & RUBBER MFG COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN

NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

FOR SALE—1 1-4 horsepower motors, with
complete accessories for bicycles. HOLLAND
AUTO Co., Jersey City, N. J.

FOR SALE

Automobile and Bicycle business
located in Massachusetts. "Official
Blue Book" and "Harvard Station."
The only auto store in the city, or
within 14 miles. Well established (7
years) and equipped with tools, ma-
chinery and power. A rare chance for
the right person. Good reason for
selling. Address

E. I., care Motor World.

**The Only Tires Fit For
Motor Bicycles—****GOODYEAR
DETACHABLES**

GOODYEAR TIRE & RUBBER CO. AKRON, OHIO

You all know what the diamond stands for among
precious stones. You can't well afford
not to know that

D-I-A-M-O-N-D-T-I-R-E-S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

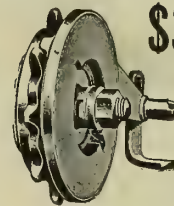
WANTED.

TO BUY JOB LOTS OF

Bicycles, Tires, Sundries and Fittings.

WRITE US WHAT YOU HAVE TO SELL.

E. P. BLAKE CO., 57 Sudbury St., Boston, Mass.

**\$3.00 Coaster Brake**

FITS ANY HUB.

Screws on in place of the
usual sprocket. Anyone can
apply it. For free booklet and
particulars, address

Canfield Brake Co., Corning, N. Y.

ALL ROADS ARE EASY WHEN THE

**STAR
BALL
RETAINER**

IS USED.

With millions in daily use, it has stood the test for
more than five years, and is adaptable to ball bearings of
any kind.

If you are users of ball bearings we would be pleased to hear
from you and mail you our catalog with the latest information,
which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

REGAL BICYCLES.

STEARNS BICYCLE AGENCY,

General Distributors,
SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

The Week's Patents.

106,021. Device for Inflating Pneumatic Tires. Frederick W. Claesgens and John G. Magin, Rochester, N. Y., assignor of one-third to George A. Claesgens, Rochester, N. Y. Filed Feb. 15, 1902. Serial No. 94,280. (No model.)

Claim.—1. In a device for inflating pneumatic tires, an air bulb having discharge valve at one end, a head holding the other end and having a chamber with side opening, a stopper having an opening, a cage adjustable in a cavity in said head and having an opening in communication with the side opening of the chamber in the head, and a valve mounted in said cage and fitted to a seat in the bottom of said cavity, all substantially as shown and described.

706,028. Pedal for Bicycles. Francis N. Cullen, Toronto, Canada. Filed Apr. 29, 1901. Serial No. 58,081. (No model.)

Claim.—1. In a bicycle pedal, a hub adapted to be connected to the pedal crank, a foothold foldably connected to the hub, and a brace, one end of which is rigidly connected to the foothold and the other end of which engages the hub and supports the foothold in the folded and extended positions, substantially as specified.

706,058. Cycle. Charles L. Horack, New York, N. Y., assignor to Rufus M. Williams, New York, N. Y. Filed Apr. 26, 1900. Serial No. 14,378. (No model.)

Claim.—1. In a cycle, pneumatic cushioning means adapted to resist relative displacement of the seating surface of the saddle and one of the wheels and comprising a spring and two chambers, each chamber having a movable wall, one of said walls being adapted to yieldingly resist such relative displacement in one direction, and the other wall being adapted to resist such displacement in the opposite direction, means interposed between said chambers for permitting the flow of air between said chambers for permitting the flow of air between said chambers in one direction, and for permitting and regulating the flow of air in the opposite direction, and means for alternately actuating said spring and producing reaction of the same by alternate movements of said walls.

706,121. Ignition Gear for Internal Combustion Engines. Frederick R. Simms, Bermondsey, England, and Robert Bosch, Stuttgart, Germany. Filed Sept. 20, 1901. Serial No. 75,862. (No model.)

Claim.—1. The combination with igniting devices provided with a movable member, of an igniter operating cam, a slide, a push

piece carried by said slide and movable with respect thereto, said push piece being interposed between the said cam and said movable member of the igniting devices, substantially as described.

706,249. Mechanism for Covering Bicycle Grips, etc. James A. Miller, New Haven, Conn. Filed Nov. 8, 1901. Serial No. 81,552. (No model.)

Claim.—1. In a machine for covering bicycle grips or other articles of manufacture, the employment of an elastic former for compressing and shaping the covering upon the surface of the article, in combination with mechanism for forcing the elastic former into conformation with the article to be covered, substantially in the manner and for the purpose specified.

706,346. Shield for Bicycle Handles. Otto Schmidt, Leutenberg, Germany. Filed Jan. 7, 1902. Serial No. 88,796. (No model.)

Claim.—The herein described shield for the hands comprising a metallic body of an elongated cup shape having a soft lining falling back upon the outside to form rounded and smooth edges, a metallic block set in one side of the metallic body, a clamp ring projecting outwardly from said metallic block, means for securing the clamp ring to the shaft or bar, a pin projecting from the metallic block into the cup shaped body, attached upon said ring in position to be gripped by the hand and projecting into the metallic body, substantially as described.

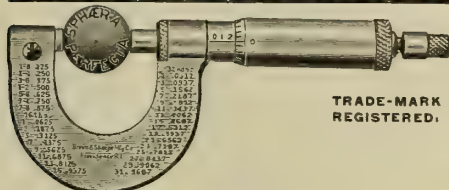
2. In a machine for covering bicycle grips or other articles of manufacture, the combination of a conveyer, a series of former supporters carried by the conveyer, elastic formers carried by the supporters, a plunger for forcing the formers upon the surface to be covered, and an anvil for sustaining the thrust of the plunger, substantially as and for the purpose specified.

"PERFECT"**OILER.**

For High Grade Bicycles. The best and neatest Oiler in the market. DOES NOT LEAK. The "PERFECT" is the only Oiler that regulates the supply of oil to a drop. It is absolutely unequalled. Price, 25 cents each.

We make cheaper oilers, also.

GUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK



TRADE-MARK
REGISTERED.

**STEEL
BALLS**

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue.

CHICAGO, ILL.

**"MOTOCYCLES AND HOW
TO MANAGE THEM"**

REVISED EDITION

BOUND IN CLOTH

The only Book of the Sort in Existence

CONTAINS A MINE OF VALUABLE
INFORMATION

PRICE, ONE DOLLAR

THE GOODMAN COMPANY

123-125 Tribune Building, - New York City

No Pneumatic Tire

Only the Cushion Frame

will ever overcome the severer
shocks and jolts incident to
cycling.

can accomplish that, and only
the combination of cushion
frame and air tire can afford
all the comfort and pleasure
there is in bicycle riding.

There are those who delude
themselves to the contrary, but
the fact remains and simply
will not down.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburg
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 77 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.



THE IRISH CYCLIST
BICYCLING & CYCLOPSYCHIC REVIEW

The Authority of the Cycle World

RELIABLE NEWS

ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.
Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Through all Bookshops and Newsagents or from the
Publishers

ILIFFE & SONS Limited.
2, St. Bride Street, London, E.C.

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect June 15, 1902.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	3.15 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars
running through to Chicago.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,

49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, August 21, 1902.

No. 21

NEXT YEAR'S PRICES

Vexed Problem may Lead to a Conference— Figures Must be Stiffened, say Makers.

The sharp increases in the price of wood, leather, tubing and other steel and materials entering into bicycles have caused more thought and figuring in the factories than people outside of them have supposed.

The repeated reductions of list prices naturally carried with them reductions of profits, and these are now so slender that the trade is ill prepared for such substantial advances in the cost of raw materials as have been made. The result is that some close readjustment of figures has become necessary.

So far as concerns bicycles for the jobbing trade, the procedure is comparatively simple. Prices to the jobbers have been or will be materially advanced, and it is for the jobbers to set their own lists. In the case of the high grade bicycles with established reputations and nameplates, the manufacturers' course is not so easy. An increase of list prices is without precedent, and while some makers incline that way, there is natural hesitation in making the move. The other avenue open to makers is to shorten discounts; that is, to advance the trade price of their goods. Inquiry develops that whether or no catalog prices are altered, the latter step is extremely likely to be made by a majority of manufacturers.

In several directions a desire for a conference has been expressed, and it is not impossible that one may be brought about. Asked whether the American Bicycle Co. would join in such a movement, a prominent director stated that while he could not speak for the company, he himself was in full sympathy with action of the sort, and thought his fellows would be similarly disposed.

How the situation is viewed by those most affected, the cycle makers, is disclosed by these expressions of opinion gathered by the Bicycling World:

"Owing to the advance which has occurred and other advances which we believe will occur, we cannot see how an advance in price to the jobber and dealer can be obviated. The profit on bicycles at the present time is very small, and from what we can

see and figure out we believe the advance in material and labor is now so great as to make the cost of bicycles such that there is absolutely no profit in the business."

"We have naturally expected that there other leading makers in establishing a uniform price for bicycles, both on the list price and selling price to the trade. We expect to advance the price of our Racer to \$60 list, and it seems to us very unwise for the few makers now in the market to cut what little profit there is in the bicycle business by useless competition. Prices have already been worked down to that point where it hardly pays to try to make a good wheel."

"We have naturally expected that there will be somewhat of an advance in the price of bicycles for 1903. While we have not as yet given the matter very serious consideration, still we are disposed to believe that any advance will be in the net price. We would not consider it policy to change the list. It is our opinion that many of the buyers, especially the close buyers, anticipate something of an advance this season over last. We do not see how people who keep in touch with the market conditions can think otherwise."

(Continued on Next Page)

New York Jobbers to Meet.

Now that the rush of business is over, the New York State Association of Jobbers of Bicycle Supplies will get together again and shape its plans for next season. To that end a general meeting will be held at the Hotel Ten Eyck, Albany, on Tuesday, September 16, at 2:30 p. m. It is probable that the separation of the sheep from the goats of the jobbing trade will be made at the time. It was the intention to do this early in the year, but the officers of the association were so fully occupied that lack of time prevented action.

Royal Removes.

The Royal Motor Works is now domiciled at 512-518 West Forty-first street, this city, where hereafter the Royal motor bicycle will be assembled. The office also has been removed to that address.

Baldwin Drops "Cycle."

The Baldwin Cycle Chain Co., Worcester, Mass., is now the Baldwin Chain & Mfg. Co. The change is one of name only.

KELLY PURCHASES PATENTS

Legal Proceedings Likely as a Result—New Line of Handle Bars Also in Prospect.

In addition to the well known Kelly adjustable bar, it is now common property that the Kelly Handle Bar Co., Cleveland, Ohio, will next season produce a reversible bar, and in all probability a complete line of stationary bars.

Contemporaneous with this announcement it is given out that the Kelly people are planning to bring their patents on adjustable bars to bear. They have recently secured control of the patents owned by W. N. Whiteley and W. N. Whiteley, jr., of Springfield, Ohio, which, with the Durkee patent of October 28, 1890, covering the Sanger form of construction, gives them, they assert, ownership of all rights to bars operating on one or two bolts and using extra plates or serrations or corrugations on the stem side. Accordingly they purpose instituting proceedings against all parties making or selling infringing bars.

Nason-Ryder Finally Dissolve.

The Supreme Court has granted an order dissolving the Nason-Ryder Co., dealers in bicycles, athletic and sporting goods, formerly at No. 25 West 42d street, this city, and appointed William C. Arnold permanent receiver. He was appointed temporary receiver on January 13 last. The liabilities were \$8,155 and nominal assets \$12,400.

Sold to Stevens for \$95,000.

The plant at Chicopee Falls, Mass., formerly used for the manufacture of Spalding bicycles, and which has been under lease for some time to the J. Stevens Arms and Tool Co., has been disposed of to that company by the American Bicycle Co. The stated consideration is \$95,000.

Eager Starts 'Round the World.

E. G. Eager sailed from San Francisco this week for a tour of the world in the interests of the Goodyear Tire and Rubber Co. He will be absent about a year.

NEXT YEAR'S PRICES.

(Continued from preceding page)

"There is no question that the decided advance in cost of all materials entering into the manufacture of bicycles must have some effect on the market prices for 1903. We do not know that this will amount to any actual advance in list prices, but there will undoubtedly be a stiffening both in the wholesale and retail trade. Discounts to dealers will average smaller, and the retail prices will be held closer to catalogue lists in consequence. The market being cleared of the old stock and job lots, and the advance in materials preventing the production of a wheel at such prices as have been made in some quarters during the past few years, will certainly give an upward tendency to the business, although list prices of standard makes may not be affected."

"As we will continue to manufacture high grade bicycles only and will list them accordingly, our list prices will not be changed next season. The substantial advance in the price of materials entering in the manufacture of our goods will naturally increase the cost of the finished article, but we have not yet decided upon our wholesale prices for the next season."

"We shall be prepared to name prices and outline our business for next season on September 1st. The conditions and prices for another season, in justice to the business and cost of material and labor, there should certainly be an advance to the low priced bicycle to warrant any manufacturer to make them."

"We have gone into the matter of cost of making our line of bicycles for next year far enough to know that an advance in price will be necessary, owing to the advances which have been made on all kinds of material and fittings. We do not anticipate that this advance will be large, but some advance to our net prices will be a necessity."

"We have not yet decided on our prices for 1903, but you can rest assured that with everything on the steady increase in value that goods cannot be sold at a lower price than has been given to the trade on bicycles for the season of 1902. We anticipate a very much more satisfactory business for the coming season than we have had this year, and the general tendency all through the market is for an improvement in the construction of bicycles, and the demand seems to be increasing for the better grade of goods."

"It is our opinion that both the prices to the retail trade and the jobber will be materially advanced and that the retailer will, no doubt, demand a much better price for machines from the user next year than he has been able to for some years past. As to the advance in the list price, we presume that inasmuch as the list price has not amounted to anything for a number of years that there will be no change so far as this is concerned. Inasmuch as there is, as you say, 'a substantial advance' in the cost of all material entering into the construction of

bicycles, and, further, that the old junk which has for the last three years been made into bicycles and sold at any price is out of the way, and also that those manufacturers who have been willing to make wheels and sell them at the cost of production or less are now safely buried, we see no reason why the trade at large should not expect an advance in prices to the point which will return to the manufacturers a reasonable profit."

Mason Gets Two Years.

L. William Mason, the crook whose specialty was "trying" motor bicycles before he bought them and disappearing while on his trial rides, will cause no concern for at least two years. As was stated last week, he was captured in Racine by employees of the Wisconsin Wheel Works, after attempting to make way with a Mitchell motor bicycle. When brought up for trial he pleaded guilty and was sentenced to two years in the penitentiary. Mason had previously swindled the Buffalo Automobil and Auto-Bi Co. out of a motor bicycle, which was afterward recovered in a pawnshop in Toledo.

G & J Have a Girl.

A particularly attractive hanger is being sent out by the G. & J. Tire Co. of Indianapolis, Ind. The hanger is in the form of a panel printed by colortype process and shows a large central figure of an auburn haired woman in posing attitude. Below the figure, and in a neat panel of red lines, is the well known signature name of the company, the address and one line of small type giving a clear cut and concise statement of the goods made.

Pierce Leaves Chambers Street.

The George N. Pierce Co. have discontinued their branch at 89 Chambers street, this city, and established an office in the St. Paul Building, 220 Broadway. The Chambers street store has been taken over by F. A. Baker, who formerly occupied a part of the establishment, and who also has a store in Brooklyn. Baker will retail the Pierce, and has added the agency for the Indian motor bicycle.

"Doctoring" the Cheap Tire.

"Anti-leak fluids must be a godsend to the makers of cheap tires," remarked the dealer to the *Bicycling World* man. "I have even come to believe that if it was not for such fluids the tires would not hold air; certainly I have never bought a tire of the kind that was not filled with it. Filled at the factory? They must be filled there. The tires I speak of are new tires."

Had a Close Call.

Those two well known figures in the cycle trade, D. J. Post, of Hartford, and Will Sayle, of Cleveland, had a close call on Sunday last. They were aboard Post's naphtha launch, on the Connecticut river, and when near Middletown an explosion of some sort occurred and sunk the craft. Post and Sayle escaped unscathed, however, and were rescued without difficulty.

OBNOXIOUS ORDINANCES

Newark and Milwaukee Propose Laws That Will Hurt Motocycling.

In aiming at automobiles the Board of Freeholders of Newark, N. J., have bracketed motorcycles in probably the most obnoxious ordinance yet drafted.

The ordinance prohibits any one from running at a greater rate of speed than eight miles an hour on straight roads, and four miles an hour around corners, under a penalty of \$10 fine for the first offence and \$25 fine for the second offence. It also calls for a light on each machine at night, which can be seen ahead for a distance of 100 yards. The lamp, or lantern, must be lighted one hour after sunset and one hour before sunrise, if there are any enthusiasts who wish an early morning spin. For violating that section in the ordinance a person will have to pay a penalty of \$5 for each offence.

Automobilists and motocyclists are also commanded to blow a horn or whistle or ring a bell when approaching any pedestrian or vehicle, which shall be heard 100 feet away, under a penalty of \$5 fine. They must also keep to the left when passing any other vehicle, and take all precautions to avoid accidents, under another \$5 penalty. Another \$5 fine is imposed on the automobilists if they loiter in the streets and in any way interfere with traffic.

The ordinance further calls for the registering of all automobiles, motorcycles and similar vehicles at the office of the County Clerk before such machine shall be used on public highways. The registry will contain the full name and address of the owner of the machine, who will be given a number, which must be painted on the back of the machine. Any machine without a number will be stopped by the police and the driver or rider arrested. In every case of this kind the owner of the machine will have to pay a penalty of \$10. In cases of transfers if machines the purchasers must apply to have their names changed to the number under a penalty of \$10 fine.

Riders are also compelled under a \$10 penalty to stop and exchange names in cases of accidents and to stop whenever any driver of a frightened horse raises his hand.

The Milwaukee City Council has also before it a pending ordinance, regulating motor vehicles, that takes in motor cycles as well, and tacks on conditions which are as iniquitous as Newark's measure.

It provides for a maximum speed of eight miles, with four in crowded sections and at corners; a 25 cents permit fee and a corresponding number to be attached; a bell which shall be sounded at crossings and elsewhere as deemed advisable; a brake capable of bringing the machine to a full stop in ten feet at the eight mile rate, and a lamp.

The penalty for non-compliance with the license and tag section is a fine of from \$1 to \$5. That for all other infractions a fine ranging from \$1 to \$50, or 90 days imprisonment, or both.

Those who Attended the Hartford Rubber Company's Annual Conference.

The conference last week of the officers, branch managers and travelling men of the Hartford Rubber Works Co. was one of the most successful held by the company in recent years.

Matters of importance were considered dealing with the development of both bicycle

and automobile tire business for the coming year.

Every branch manager and travelling man was present, and on Thursday the officers of the company entertained the entire force with a shore dinner, given at Branford Point, Conn.

A good programme of fun was part of the

arrangement, with a ball game as a part of the "sports department," of which Mr. L. D. Parker acted as umpire. It was the opinion of all that he was the rankest specimen of an umpire that ever graced the field.

Amongst the guests present at the dinner were A. W. Swann, president of the Rubber Goods Mfg. Co., and J. C. Wilson.



1—M. J. TANSY, Mgr. San Francisco Branch. 2—JOSEPH RENTALL. 3—W. H. KIRKPATRICK. 4—S. G. GILLARD, Mgr. Chicago Branch. 6—E. S. BENSON.
 7—JAS. W. GILSON, Sales Manager. 8—JAMES HOWE, Mgr. Buffalo Branch. 10—LEWIS D. PARKER, President. 11—A. W. SWAN, Pres. Rubber Goods Mfg. Co.
 12—J. C. WILSON, Rubber Goods Mfg. Co. 13—WM. H. ST. JOHN, Secretary. 14—H. E. FIELDS, Mgr. Denver Branch. 15—W. B. FEWELL. 16—W. OSTLOH.
 17—O. S. HARRISON. 18—JAS. KAVANAUGH. 19—E. E. MC MASTER, Mgr. Detroit Branch. 20—E. R. BENSON, Mgr. Boston Branch. 21—B. G. SNOWMAN.
 22—M. C. STOKES. 23—C. B. CHANDLER. 24—P. W. HOOD, Mgr. Cleveland Branch. 25—SAMUEL FINLEY, Mgr. Atlanta Branch. 26—R. P. PARKER.
 27—WM. DOUGHERTY, Mgr. Minneapolis Branch. 28—J. RUSSELL. 29—F. KESSER. 30—M. T. PRIEST. 31—CHAS. FAY, Mgr. Philadelphia Branch.
 32—F. H. TURNER, Superintendent. 33—J. D. ANDERSON. 35—A. H. WYKOFF. 36—H. F. SNYDER. 37—E. H. BRANDT, Mgr. New York Stores.
 38—E. H. ROE. 39—J. P. KROGH. 40—H. FLOW.

Australian Trade Unsettled.

The Australian trade is in a very unsettled condition, owing to the prolonged debates in connection with the federal tariff. The Upper and Lower Chamber disagree, and there is no hope of a compromise or understanding; a dissolution is needed to clear up the matter. Meanwhile the collecting of duties, according to the proposals, is illegal, and the merchants are in revolt against the prolonged settlement of affairs.

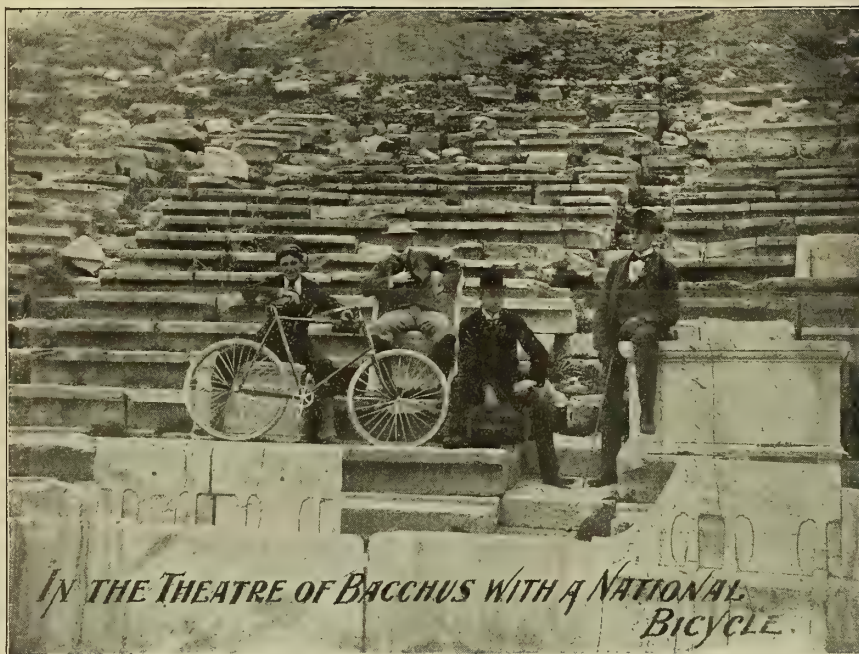
The eyes of the business world have been

opened regarding the increase in duties, many firms having already lost much money, and if the elections turn the present government out (a very likely eventuality) the loss to the importers will be enormous. It is well to be cautious in dealing with Australia at this time, and exporters should be careful in giving credit and overstocking Australian stores.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound. \$1. The Goodman Co., Box 649, New York ***

Are Trailers Baby Carriages?

English cycling circles are mildly agitated over the question whether the addition of a trailer to a bicycle makes the combined vehicle a carriage. If it does it cuts the ground from under the contention that a bicycle is not a carriage and is, therefore, entitled to such privileges as being carried on railway trains, etc. Baby carriages have always been accorded special privileges, too. Perhaps the trailer, detached, could be run in as a sort of grown up baby carriage.



THE SAME OLD STORY.

PHILADELPHIA, PA.,

May 23, 1902.

NATIONAL CYCLE CO.,

BAY CITY, MICH.

GENTLEMEN:—In June, 1899, you sold me from the factory one of your \$60.00 wheels. There are plenty of cheap wheels for sale here, in fact, they almost give them away; but my experience with your wheels has been such that I would not think of looking further.

No. 15627 has been in constant use, averaging from ten to fifteen miles daily over all sorts of city streets, and all it cost me in repairs is: 35 cents for cone in pedal, 75 cents for two rods through front and rear hubs, 5 cents for two small balls, \$1.25 for new chain, and last spring two new Goodrich tires, the first ones having worn through the canvas, exploding only because of thinness. The wheel runs as easy as ever. This is a record hard to beat.

I do not know whether you have an agency here or not. If you can sell to me direct, please send circular of 1902 models. Yours truly, JOSEPH J. MAGIN.

A NATIONAL RIDER NEVER CHANGES HIS MOUNT.

NATIONAL CYCLE MANUFACTURING CO., - Bay City, Mich.

**GRASP THIS OPPORTUNITY
OF SECURING THE BEST.**

YOUR DEALER WILL GIVE IT TO YOU.

What? Why Fisk Tires of course.

THEY ARE THE BEST.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday
By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] **\$2.00**
Single Copies [Postage Paid] . . . **10 Cents**
Foreign Subscription **\$3.00**

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, AUGUST 21, 1902.

The Price Problem.

To all who have given the subject thought it must be apparent that the sharp advances in the cost of raw materials has done nothing to render happier the position of the cycle manufacturer.

The reduced demand that has prevailed during the past several years has not carried with it any material savings in either factory or selling costs; and the reduction of list prices failing to stimulate the demand, as was hoped and expected, the manufacturers' margins have at best been all too slender; in many instances it has bordered on the precarious.

This year's increased cost of raw materials has about brought matters to a climax. To insure a balance the makers have two courses left to them, to advance catalog prices or to shorten discounts to agents. That one step or the other will be made the expressions of opinion which we print elsewhere make reasonably certain, and that the preponderance of opinion is in favor of alter-

ing discounts is equally apparent. That agents will not relish such a state of affairs goes without saying, but whether they would welcome more warmly an increase in lists is an open question. The latter is without substantial precedent in the cycle trade, but from the disposition evinced in several directions we are convinced that the radical move would be made did the retailer sanction it, or at least accept it in good faith and with good grace. So knotty is the problem, however, that it is well within the realm of probability that a conference of makers may come to pass in the endeavor to reach a solution, which is, perhaps, the best way to settle the matter.

Abating the Guarantee Abuse.

Two causes have operated to make the guarantee question one of comparatively little moment, vastly different from the great importance it occupied years ago.

The first is the great reduction in price that has taken place, and the consequent shortening and minimizing of the guarantee. When the buyer paid a big price, from \$100 to \$150, there was a general feeling that a very wide latitude in the matter of guarantees should be allowed. In other words, the rider paid for the guarantee as well as for the machine, and six months or a year was not an unreasonable time for him to be protected, nor the broadest possible interpretation of the terms of the guarantee a too liberal one. With the steady decline in price, however, this feeling underwent a very material change. The guarantee period was much shortened and successful efforts made to withdraw attention from it.

The second cause was the very marked improvement that took place in the average machine.

The guarantee had its origin in a very urgent need for it. Mishaps, major and minor, were constantly occurring to even the best machines, and an arrangement of some sort whereby such of these as were due even remotely to defective design or workmanship should be made right by the maker was almost absolutely necessary.

For a very long time this condition of affairs prevailed. Even after the safety bicycle, pneumatic tired, had become standard everywhere, it was still subject to breakages of all kinds. The featherweight era had made this inevitable, and the slow perfecting of the pneumatic tire merely increased the need of a safeguard such as the guarantee was felt to be.

The evolution of the cycle was coincident with the hammering down of prices.

To-day it is impossible to buy anywhere machines of low price and high quality. There may be something lacking in the way of finish, of refining details, in the cheapest, but the serviceableness of even these machines is unquestioned. The proportion of breakages and mishaps of all kinds is small—ininitely less than it was a few years ago. And when they do occur the rider is much less insistent in his demands for redress. Unless the trouble is plainly due to some fault of the maker, he accepts it philosophically and foots the bill without demur.

It is not contended, of course, that disputes do not still arise between riders and dealers, or between dealers and makers, over guarantees.

They do, and must, from the very nature of things, continue to do so. Friction of this sort can never be entirely avoided. But to reduce its volume by such an appreciable extent as has been done is to accomplish all that can reasonably be hoped for.

The Safety of Motor Bicycles.

On Sunday last, while on the Coney Island Cycle Path, a motor bicyclist suffered a broken front fork. It gave way without warning, and threw him heavily to the ground. He was carried unconscious to a Brooklyn hospital.

In some way badly garbled and exaggerated accounts of the accident reached the daily press. Most of the papers attributed it to an explosion, several of them reporting that the unfortunate rider had been "blown twenty feet into the air," while his machine was "badly wrecked." As a matter of fact, and as stated, only the front forks broke. Absolutely nothing else occurred.

The harm done by unfounded reports of such alleged explosions is not easily estimated. With the public mind filled with the erroneous idea that gasoline of itself is a high explosive, such stories but serve to strengthen the impression that the motor bicycle is dangerous and easily "blown up," thus deterring many from enjoying the delights that come of its use. Probably only time and education will serve to destroy the "explosion bugaboo" and convince the unthinking or uninformed that the gasoline motor as now constructed is as safe as the gas stove or gas meter of household use, and very much safer than the gasoline stove.

There is no known record of an authenticated explosion of a motor of the sort, and that a motor bicycle can "blow up" is be-

yond belief. Gasolene in itself is not explosive. To bring about an explosion with gasolene as the base there must be conditions more or less predetermined, and these conditions are not the easiest in the world to arrange.

The truth of the matter is that one of the most difficult problems in gasolene motor use is to design an apparatus, known in the trade as a carburetter, that will at all times bring about a condition, or mixture, that will explode under the further conditions which must be brought about.

The statement that gasolene itself is not explosive is the crux of the entire subject. Gasolene can be used as a base for an explosive mixture, just as sulphur can be for gunpowder. In either they are non-explosive without other factors, and each forms but a small part of a resultant explosive, about one-eighth in each instance. The conditions which must take place before an explosion can be had with gasolene as a partial factor are as follows: The gasolene must first be allowed to give off its vapor, and with this vapor their must be mixed many times its quantity of air. These conditions having taken place, the result is a mere gas that again is non-explosive in its free state. To bring about the final condition where a flame of some kind will have the effect of "touching it off" this gas must be compressed; then, and only then, can an explosion take place.

With the full quota of necessary conditions borne in mind, it will be readily understood that the explosion of the gasolene tanks of motor bicycles or explosions of any kind are fairly impossible except the minute affairs which take place inside the cylinder to drive the motor. These are actually heat expansions and can have only a predetermined force, which can never be more than the mechanical conditions permit, as any disarrangement of the latter would mean no gas to be expanded. The thought may come to some that a part of the motor itself might be blown out by the pressure from expansion. This would mean almost another impossibility. To blow out the walls of the cylinder would mean that they would have to be thinner than it is possible to cast the metal, and as for machining them that thin, there are many manufacturing reasons to operate against any such condition in general practice.

As a matter of fact, a tank of gasolene can have a match applied to its opening, and a flame can then only occur after the fumes have reached the air where they can mix with sufficient proportions of the latter to

make an inflammable gas. This flame has so little life that it can generally be extinguished by simply striking the opening with the palm of the hand.

In line with this same subject is the occasional report that the tank on some gasolene launch blew up. The truth is that probably there never was an authentic case of the blowing up of a gasolene launch tank, in the popular understanding. The thing which does take place comes from the natural laws that have been detailed, and which have been brought about in much the following manner:

Most tanks on boats are placed forward and under the deck, the top of the tank usually being some inches below the underside of the deck. When a filling of the tank becomes necessary an opening in the deck is uncovered, and the filling hole in the tank is also opened. The gasolene is then poured through the two openings, and during all the time of pouring the fumes from gasolene rise and permeate every crevice forward. Both openings are then closed, that in the deck confining the gasolene vapor in a more or less sealed chamber. In time enough of the fumes have been displaced by air to make an explosive mixture. The motion of the boat compresses this mixture at some one point, a flame reaches it, and then comes the explosion. The tank may be battered, if not broken, and usually is, but it is not the tank which blew up. The remedy would be to fill the tank through a funnel reaching above the deck. These conditions, however, cannot take place with a motor bicycle, as the tanks are never confined, the surrounding atmosphere taking care of the rising fumes, and any excess fumes generated in the tank pass off through the vent that must be provided in order that the gasolene will flow to the carburetter.

Gasolene is not an explosive in itself, neither can vented tanks "blow up."

The L. A. W. in New York.

The regulars who have so long conducted the New York Division, L. A. W., on a do-nothing basis apparently do not relish the prospect of opposition to their policy of self-perpetuation. One of them has rushed into print in defence of his regime, and calls the independents who seek to instill real life into the organization some unpleasant "names" and does the old trick of impugning their motives.

With charming unconsciousness of the consummate egotism betrayed, he also predicts

that if he and his fellows are ousted the Division will go to smash within one month. He says the "regulars" have reduced the Division debt and gone down into their own pockets when necessary to "help out." He apparently fancies that no other set of men would do as much, but most of the men on the independent ticket were working for the League and for cycling and "going down into their pockets" long before the present officeholders were heard of. It is only their love for the organization that inspires their present effort to prevent it from drifting totally to the dogs. Whether they win or lose is of comparatively small moment to the men personally. Their attitude has already resulted in benefit in that it has brought home to many that the League still lives, and if the "regulars" are as devoted to the cause as they would have believe, they will stand for re-election and not decline renomination, as reports state is their intention.

The stir created by a contested election will help the organization as much as any other one thing, while the election of Joseph Oatman as chief consul would assure that the stir would be properly followed up and taken advantage of. He stands for the aggressive element that is ready and willing to get out and do something, and not merely confine themselves to an office in a downtown building, as is the case at present; in fact, to all intents and purposes this office constitutes all that is left of the New York Division. It is so rare that it is heard of outside its confines that the general impression that the League is "dead" is not wholly unjustified; indeed, in New York newspaper circles the office is commonly referred to as the "morgue."

The obnoxious ordinance affecting motorcycles which is pending in Newark, N. J., is an apt instance of the field of usefulness which exists for the L. A. W., if it were not so weak and apathetic. As it is, there are a sufficient number of motocyclists in Newark to bring pressure to bear against the proposed measure and to convince the authorities that they are to be classed with bicycles, not automobiles. The same is true of Milwaukee, where a similar law is in prospect.

Some men advocate the use of lanterns at night because they think it best, while others do so because they know it best. The latter generally come from the class who get into trouble because they have been lampless.

ALL RECORDS BROKEN
 FROM 1 TO 43 MILES BY
 ALBERT CHAMPION
 ON AN
ORIENT RACER
 PAGED BY AN
Orient Motor Tandem.

43½ MILES, 293⅓ YARDS IN ONE HOUR.

Orients cost more than other wheels, but they are built for speed and durability, and it pays in the end to buy the best. Agents offer other machines because they can make a larger profit. Do not let them make it out of you.

WRITE FOR CATALOGUE OF BICYCLES AND MOTOR MACHINES.

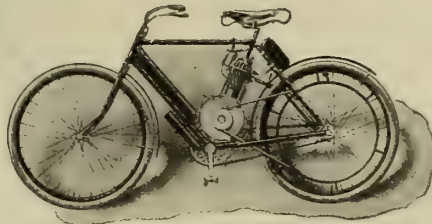
WALTHAM MFG. COMPANY, = = Waltham, Mass.

IN THE FIFTY MILES
Motor Bicycle Economy Test,

AT MANHATTAN BEACH, AUGUST 9,

FIRST HONORS were won by an **AUTO-BI** ridden by E. J. EDMOND

HE OBTAINED THE
GOLD MEDAL—
 the only one—for demonstrating the
 AUTO-BI to be the most
 economical machine.



AUTO-BI No. 4. \$175.

HE ALSO OBTAINED A
BLUE RIBBON
 for completing the 50 miles without
 a stop of any kind for
 any purpose.

EVERY AUTO-BI is AS GOOD as THE ONE THAT EDMOND RODE. As the original and time-tried motor bicycle, it embodies the result of wide experience that other makers are just beginning to obtain.

BUFFALO AUTOMOBILE & AUTO-BI CO., 1192 Niagara Street, Buffalo, N. Y.

NEW YORK HEADQUARTERS: 29 West 42d Street.

BOSTON: 174 Columbus Avenue.

On Being First Class.

Nothing "goes" better for being second class excepting periodicals.

Men and maidens and manners and machinery want to be first class always. At least let us hope they want to be—they should be so.

Probably no one tries deliberately to become a second class workman, says the Business-World. That unenviable position is surely and often attained, however, and by simply falling below the standard of the first class workman.

Just as the absence of light is darkness so is the absence of skill the unskilled. Few in the world do their best. Oddly enough, we might all do better if we would. Where the will is the way is. The factor to deal with in the search for successful "hows" is this very thing—the will. "I will" is the motto to adopt and live up to. So lived it will land you in a high place—as high as your capacities entitle you; and certainly if you have received justice in this life you need ask no more.

The growing demand is for men and methods that are truly first class. We need them, and we need them very much. The rewards are waiting for the workers who reach the right plane. Their names need not be written on the roll of fame; they need no introduction from influential citizens; they require no cash capital. The initial is hard work; but if in the right direction merit

and high endeavor—work and the will—are vehicles that carry toward life's best rewards.

Statements like these sound like platitudes, yet they contain the essence of all that is needed by the young man who has vainly sought the elusive "how."

Get to work. Do your best. Be first class. The world wants you then!

No Longer the Fashion.

The expeditious manner in which fads disappear is only equalled by that with which they come into existence. What is even more remarkable is that their going is frequently unheralded.

There is the fad for supporting a saddle at the front with an upright piece of wood, the object being to ward off any tendency toward bending the seat post. A year ago this practice was in full swing. Not only racing men, who, of course, originated it, but road riders of all descriptions adopted the plan. Just as dropped handles and bentover position was once held to denote the "scorcher," so the supported saddle was regarded as marking the modern racing man.

Very few of these sticks are seen nowadays, however. A few of the racing men, those who have an unusually long reach, and therefore require something of the kind, still use them. But very few others do so. It is no longer the "fashion," and even to-day there are many riders who have to follow that elusive yet fascinating dame.

On Taking Care of Tires.

When recently congratulated on his good "luck" because of the greater life of his double tube tires by a friend who had the same make on his bicycle and whose tires were dead by comparison, the first named indignantly denied the good luck part and wanted credit for his own personal cleverness in the matter.

Like many really clever ideas, the thing was simple enough when explained. Any one who has had experience in repairing double tube tires knows the value of applying French chalk (which is finely pulverized mica) around and over the patch to take care of any film of imperfectly dried solution that may be there.

Starting on this basis the man in question reasoned that if the chalk prevented sticking, that it also acted as a sort of dry lubricant and allowed the inner tube to move without friction under the action of road pressure. Carrying out this idea, he occasionally takes off one side of his cover and puts in a lot of French chalk. He claims that by thus fixing matters he gets that resiliency which his friend has been crediting to good luck.

Another point made for the liberal use of the chalk applies to putting back the inner tube after a puncture has been mended. The plentiful use of that material allows the inner tube to easily slip into place when put back, preventing rim pinching troubles.

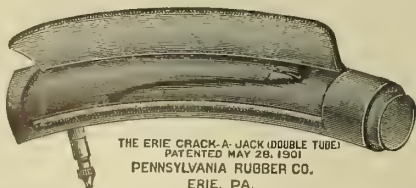
Jobbers, Be Wise!



Handle these
Goods and
MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK (DOUBLE TUBE)
PATENTED MAY 28, 1901
PENNSYLVANIA RUBBER CO.,
ERIE, PA.

Don't close
until you
consider
our entire
line.

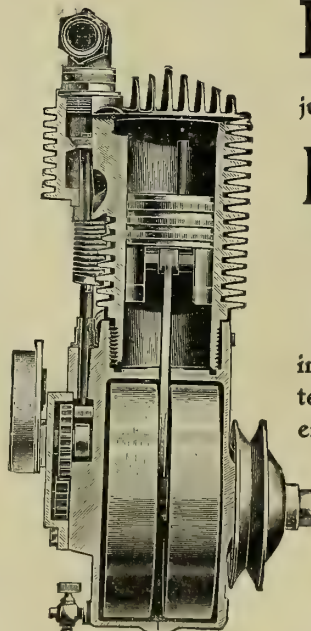
**PENNSYLVANIA
Rubber Company,**
ERIE, PA.

BRANCHES:

NEW YORK
BUFFALO

CHICAGO
PHILADELPHIA

BOSTON



1 3/4 Horse Power.

MOST of the successful
motor-bicycles of Eu-
rope are driven by the
justly famous

**Kelecom
Motors.**

For instance, in one of the
important hill-climbing con-
tests 12 of the 14 different
entries were fitted with Kel-
ecom Motors, and of
course the Kelecom won.

WE ARE SOLE
UNITED STATES
AGENTS.

Write us for prices.

EXPERIMENTS ARE COSTLY.

Avoid them by using a motor that has proved its
ability to "get there" under any and all conditions.

A. H. FUNKE, 98 Duane St., New York.

RACING

G. Lawson finished first, covering thirty-six miles, in the opening hour's ride of the four night one-hour single motor paced race inaugurated at Philadelphia on August 13. Ben Munroe was second, one lap in the rear; Tommy Hall, third, four laps short, and William King one mile behind. Lawson rode the hour without leaving the track, his time being 59:37. Hall got away first, with Lawson, Munroe and King a few inches behind. Scarcely a mile elapsed before Munroe's motor went wrong. Lawson jumped into the lead at the sixth lap of the first mile. He maintained it over Hall and King. In the twelfth mile Munroe resumed riding. Then began a battle between Lawson and Munroe. Hall lost his pace at the eleventh mile and again in the sixteenth mile, after which he was distanced. By a spurt Munroe jumped into the lead at eighteen miles. King fell off his wheel during the nineteenth mile, and his motor belt broke in the thirty-third mile. A few minutes later Hall lost his pace. Lawson was following Munroe at terrific speed, and succeeded in passing him at the twenty-sixth mile. By fast work he gained a lap and held it to the end.

Munroe regained his lost lap in the second hour's ride at Philadelphia on the 14th, and at the finish was tied with Lawson at seventy-three and one-half miles, both having covered thirty-seven and one-half miles in the second hour's ride. Hall was fourteen laps behind and King twenty-three. Lawson took the lead at the start, and Hall was second for three laps. The pace was too hot for King, who was lapped before a mile was ridden. Munroe went to the front at two and a half miles, and he and Lawson rode around King and Hall. At four miles Munroe spurred away from Lawson and regained the lap. Lawson, led by Munroe, was ahead by a few inches, and at ten miles he gained another lap. As the fifteenth mile began Munroe's motor tire gave out and King's machine was utilized. King quit riding, being assured of his position. Munroe resumed riding at the nineteenth mile. During the interval Lawson regained the lap. Again at twenty-two miles, Munroe lost his pace and Lawson lapped him again. At the twenty-ninth mile Munroe started out to regain his lost distance. With but few inches separating them they rode at terrific speed, and Munroe took the lead at thirty-four miles. He was never headed, and finished on even terms with Lawson.

Munroe went out on the third night's riding at the crack of the pistol, and rode 38 miles 5 laps in the hour, a new world's record for single motor pacing. Lawson was second, having ridden 37 miles 1 lap, while King and Hall had 37 miles each to their credit. There were practically but two men in the race, as both King and Hall had trouble with their machines early in the contest. In fact, King's motor went wrong, and he drew out on the first lap of the twenty-seventh mile. Lawson came out the winner of

the four nights' one hour per night race which closed the 16th. An accident to Munroe's motor disabled him for a time, during which Lawson regained his lost ground and took a commanding lead. King was sick and unable to compete. Munroe had a lead of eleven laps when the final hour's race began before a crowd of 4,000 people. At the twelfth mile his motor ran off the track, and before Munroe was aware of his danger he was hurled through the air and fell to the track, rolling down the incline. He secured a new mount, and with another motor reappeared and started out again. In the interval Lawson regained his lead. Munroe made a great finish, and if time was allowed would probably have won. He gained half a mile on Lawson when the hour expired, and he was four and a quarter laps behind. Hall made a game race, but could not catch up with the leaders. He covered 30 miles and 7 laps. The final score for the four nights' work was: Lawson, 148 miles 1 lap; Munroe, 147 miles; Hall, 139 miles 2 laps. Lawson covered thirty-six miles the last night.

There was a long delay at Vailsburg on August 17, caused by the fact that the professional riders and their wheels did not get in from Atlantic City until after 4 p. m. The most exciting race of the day was in the one-mile professional open. A single motor bicycle was used to pace the riders in each heat, as well as in the final. The motor was stopped each time after going three-quarters of a mile, leaving the sprinters to fight it out alone in the last quarter. Kramer captured the first heat in 1:58, Carni the second in 2:02, Bedell the third in 1:58 2-5, McFarland the fourth in 2:04, Stevens the fifth in 2:02 1-5 and Bowler the sixth in 1:59 1-5. After three semi-finals only Kramer, McFarland and Bowler were left in for the final. Kramer caught the pace, and the race was a procession to the finish, with Kramer winning by a length and McFarland as far in front of Bowler. Time, 1:59. The five-mile professional handicap proved the most exciting event of the day. Starting from scratch with Collett, and with the nearest man 100 yards away, McFarland put up a grand ride, having caught up with the line of men before four miles had been completed. Beauchamp and Martin worked as a team, as did also Schreiber and Jacobson. McFarland and Collett alternated pace for six laps, and then Collett was all in. McFarland plugged on, and finally worked his way up to Stevens. For three laps Stevens kept McFarland up in front, and on the bell sat up and allowed him plain sailing. Beauchamp, with Martin on his rear wheel, then came around the bunch and went to the front, with McFarland third. Martin was on the pole with Beauchamp at his side, hemming McFarland in. Half way up the straight Martin swerved, leaving an opening, and McFarland came through like a catapult. It was a fighting finish between the two, McFarland winning by barely an

inch in the last stride. Martin was a length in front of Bedell, and then came Rutz and Tom Butler. The time was 10:29. Hurley did not appear in the one-mile amateur handicap, which was won by Henry Chappey, with 40 yards handicap, in 2:01 4-5; W. L. Losee (20 yards), second; Walter Courter (120 yards), third; Leo Gargan (160 yards), fourth. Neither Billington nor Glasson showed, owing to Billington's refusal to alternate pace.

There were six heats in the consolation for amateurs who had not finished first this season, and twelve lined up in the final heat. Half a mile was the distance, and M. T. Dove was the winner. After riding in third position for a lap, Dove went to the front on the backstretch and held the lead to the end, being two lengths in front of Edwin Bailey. The latter was half a wheel in front of Losee, and William Vanderveer got fourth. Time, 1:07.

At Providence on August 13 S. Sulkins defeated H. Martin two straight heats in a five-mile paced race, and incidentally broke all world's amateur competition records from one to five miles, inclusive. In the first heat Sulkins broke the three, four and five mile marks, and in the second heat cut all marks from one to five miles. The miles were: One mile, 1:30 4-5; two, 2:59 1-5; three, 4:26; four, 5:53 2-5; five, 7:24 2-5. The previous record for five miles was 7:39 2-5, held by Joe Nelson. The fastest mile was the third, in the second heat, 1:26 4-5. The race was a hot one. Martin drew the pole, with Sulkins on the outside. The first mile was the slowest of the race. Sulkins waited in the second mile, and then went by in a burst of speed, riding the mile in 1:28 3-5. He then opened up a gap, and at three miles had nearly a lap. At four miles he cut the world's record two seconds, and at five miles caught Martin, riding in 7:37 1-5, cutting the record two seconds. In the second heat both rode faster. The first mile was in 1:30 4-5, and the second in 1:28 2-5. The third was 1:26 4-5, with Martin still trailing. In the fourth mile Sulkins gained, and at the finish of the heat was 260 yards to the good, in 7:24 2-5. Martin's time was 7:38, also inside the record. There was some delay in starting the Champion-McLean race, and then a poor start caused the race to be restarted. Just as McLean completed the first mile, and was leading, his front tire punctured and he was compelled to withdraw. Champion was given the race. The original contest was for twenty-five miles. A new trial was arranged at twenty miles, and proved very exciting. At the gun Champion started out to catch McLean, and rode miles in 1:21, and at three miles caught him. At five miles Champion was one second behind the world's record. At ten miles Champion was trailing, and was five seconds ahead of the world's record. At thirteen miles McLean sprinted and gained back 150 yards, and at fourteen miles was only forty yards behind Champion. The miles were being ridden in 1:22. At sixteen miles McLean passed into the lead. At sev-

enteen miles he led by fifteen yards. At eighteen miles Champion claimed a puncture and changed wheels. Before he got going again McLean won. McLean made the twenty miles in 27:34 3-5. The former record was 28:16 3-5.

The two-mile amateur open was won by M. Hurley; W. J. Potter, second; E. F. Root, third; time, 4:21 4-5. The half-mile amateur handicap fell to W. O'Brien (90 yards); Hurley (scratch), second; Root (10 yards), third; T. Taylor (110 yards) fourth; time, 0:57.

Otto Maya defeated Nat Butler in straight heats in the paced race at Springfield on August 14. He won both heats in hollow fashion, having Butler well in hand without the accidents to the latter's machines in the second heat, which made victory for Butler impossible. Walthour was expected to race Butler, but his machines were held up in Hartford on an attachment, and Maya was secured at the last moment. Maya took the lead in the first heat in the first lap, and increased it steadily to the end, except for the eighth mile, in which Butler rallied a little. In the second heat Maya went off again with a rush, and at the second mile was nearly a lap to the good, when his rear tire punctured and the race was stopped. When it was resumed from the finish of the second mile Maya continued his work, and steadily increased his lead on Butler until the fifth mile, when Butler's pace went wrong and a single was substituted. It worked fairly well for two miles, but Maya continued to gain, and at the sixth mile was six laps ahead. In the fourth lap of the sixth mile the single motor gave out and Butler had to finish without pace. Maya won the first heat by a lap and a quarter in 16:25 2-5, and the second by a mile in 17:01 1-5. Hurley established a world's amateur record in the third of a mile open trial heat, doing the distance in 0:39 3-5. He also won the final in 0:39 4-5; J. W. Linley, second, and E. F. Root, third.

At Boston on August 16, before 3,500 spectators, Champion defeated McLean in a twenty-five-mile paced race by about a quarter of a lap in 37:22 3-5. Champion started from the tape and McLean on the backstretch. The former started off to win, and at the first mile led by forty yards. He increased this so that at the next mile he was directly behind McLean, making his lead about ninety yards. Just after completing the eleventh mile McLean changed pace, and as he did so struck a little elevation in the track and fell on the first curve. He was not hurt, but the accident cost him several laps. As the second motor was a low powered machine, Champion lapped him twice, making his lead on the twenty miles almost a mile. Then Champion began to go to the bad and lost a few yards. At the beginning of the twenty-second mile his motor went wrong. Champion followed it for a couple of laps, and then rode unpaced till the second motor came on. That got working very fast, and by it Champion was enabled to hold off McLean.

Albert Champion was in front of Harry Elkes by 400 yards at the end of the thirteenth mile of what was originally intended to be a twenty-five-mile paced race, on August 18 at Boston. Rain began to come down when the men were riding in the eleventh mile. Elkes was then half a lap in the lead. He repeatedly signalled the referee that the track was too wet for safety. No notice was taken of Elkes, and on the twelfth mile he intentionally left his pace and later made an effort to catch it, as the referee would not stop the race. Champion, in the mean time, had passed him, and when the gun was fired at the end of the thirteenth mile he had a good lead. The contract stipulated that the man in front at the gun would be declared the winner. The time for the thirteen miles was 18:51 1-5.

In the International six-hour race at Freidenau, Berlin, Robl, the wonderful German, succeeded in covering the amazing distance of 223 miles, and incidentally shattered no less than eight intermediate records. What makes the performance the more remarkable is that five minutes after the start Robl suffered a severe fall, fearfully lacerating his thigh; he, however, remounted and continued as if nothing unusual had happened. His pace is equal to 37 miles 293 yards per hour, or 892 miles for the 24 hours.

Rain stopped the N. C. A. amateur championship races at Hartford on August 18 at the time when the final of the quarter-mile championship was to be run. Hurley won the first semi final, E. F. Root the second, Billington the third and O. Diggs the fourth. The best time was 0:30 1-5, made by Hurley in the first preliminary heat. The five-mile championship race was not started. There was long delay in starting the gentleman's motor race, John O'Malley being the only one to finish. Distance, two miles; time, 3:22 3-5.

Taylor won the two-mile N. C. A. championship race from Kramer at Baltimore on August 14. In the preliminary heats Kramer's time was 4:52, while Taylor required 5:01 to make the distance. The final heat resulted as follows: Taylor, first; Kramer, second; Collett, third, and W. S. Fenn, fourth; time, 5:23. The half-mile handicap was won by P. H. Jacobson (45 yards), first; J. Newkirk (45 yards), second, and Bald (35 yards), third; time, 0:58 3-5. F. A. McFarland won the consolation race, one mile, in 2:00; Kimble, second, and Bedell, third.

The N. C. A. circuit meet at Atlantic City on August 16 was witnessed by 6,000 people. Kramer won the half-mile championship, defeating Taylor by several feet in 0:59 3-5; Fenn, third, and Kimball, fourth. The one-mile handicap was won by Jacobson (80 yards); Kimball (40 yards), second; Fenn (scratch), third; Cowin (80 yards), fourth; Bowler (10 yards), fifth; time, 2:00 4-5. The one-mile consolation was won by Bedell; Martin, second; Newkirk, third; Keegan, fourth; time, 2:25.

At Pittsburg on August 18 Joe Nelson broke the world's record for twenty miles and defeated Freeman and McFarland. Freeman lost his pace in the fourth, ninth and sixteenth miles, and in the seventeenth dropped out. McFarland had covered seventeen miles when Nelson finished the twenty. Nelson's time for the twenty miles was 27:18, beating the world's record of 27:34 3-5. Nelson's time for five miles was 6:41; ten miles, 13:27½; fifteen miles, 20:00½. The last five miles were made in 7:18½.

The N. C. A. championship races at Hartford on August 1 attracted about 2,000 people. The two-mile national championship was won by Taylor in 5:23; Kramer, second; Collett, third, and Fenn, fourth. The final of the half-mile handicap was won by J. P. Jacobson, who had a handicap of 45 yards; Newkirk (45 yards) second; Krebs (30 yards), third, and Taylor (scratch), fourth; time, 0:58 3-5. The mile consolation was won by McFarland; Kimble, second; Bedell, third, and Schreiber, fourth; time, 2:00.

Joe Nelson won two straight ten-mile paced heats from Leander in fast time at Atlantic City on August 15. The first heat was run in 14:42 1-5, and the final in 14:46 3-5, Nelson winning by two laps. Nelson's motor was of 10 horsepower, and Leander's was 3¼. Leander's motor gave out in the third mile of the first heat, which lost him the race. In the second heat Leander lost his pace on the last mile.

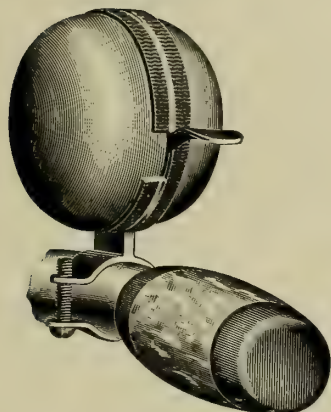
George Leander defeated Major Taylor by one and one-half laps in a two-mile paced race at Atlantic City, August 19. Time, first mile, 1:24 3-5; total, 2:50 2-5. Leander ran away from Taylor from the start and lapped him in the second mile. Taylor won a one-mile paced race from Leander by one foot in 1:34 2-5. A five-mile paced heat between the same men was won by Leander in 8:38 4-5.

Taylor competed with Leander at Atlantic City on August 18 in one, two and five mile paced races. The time for each race was poor, considering the riders. Taylor won the one-mile by five feet in 1:38, and the two miles in 3:19 by three-quarters of a lap. Leander won the five-mile heat by one yard in 8:09. His riding was easy, no attempt being made for fast time.

The twenty-mile paced race between Nelson and Freeman at Pittsburg on August 16 ended rather unsatisfactorily. Nelson's pace broke down in the fourteenth mile, and he was forced to ride seven laps without pace. A single then took up the pace, and the race was finished, Freeman winning in 29:01.

Linton's performances in Paris continue to border on the sensational. In a 100 kiloms. paced race on the Buffalo track, August 3, he defeated Bonhours and Taylor, establishing the phenomenal world's record of 1 hour 9 minutes and 27 2-5 seconds for 50 miles.

THESE ARE BUT 3 of Them



OUR CATALOG ILLUSTRATES

42 Others.

Among the number there
ought to be some-
thing that will
interest you.

BEVIN BROS. MFG. COMPANY

EAST HAMPTON, CONN.

FOUNDED 1832.

Could get What he Wanted.

According to the Cycle Trader, an American rider bewails the fact that he finds it impossible to find here a bicycle with slotted or open front fork ends.

"I don't suppose my saying it will affect matters in the least, nor do I picture makers falling over one another getting into line, but I do wish that some of them would next year offer me a bicycle with a front fork construction that will let me take my front wheel out and put it in again without springing the forks," he is quoted as saying.

"I know that the front fork scheme has been tried and abandoned because of possible troubles from the wheels coming out of the open ended forks, on the road, if a nut was lost, but it seems to me that this could be satisfactorily arranged by some of the clever superintendents or designers in the business. I have in mind a washer with an upwardly extended tongue having a clip at its top to go around the fork side. This could be nickelled to give the fork end a finish and a little character. The clip could be a split affair, on the inside of the forks, where it would not show, with a small screw for locking it in place."

The rider, if he is a real American, can scarcely be ignorant of the fact that there are forks of the kind he desires.

It must be admitted that there are too many machines with closed fork ends, however. The trade has shown a remarkable, even a surprising, disinclination to accede to the wishes of a very large number of riders who desire facility of wheel removal. It apparently does not consider the matter of sufficient importance to supply such forks; and the fact is pretty good evidence that there is no widespread desire for the other sort of fork, no very great amount of complaint made of the present methods.

At the same time a rider who really desires slotted fork ends can obtain them. There are a number of makes possessing this feature, as a little inquiry will make plain.

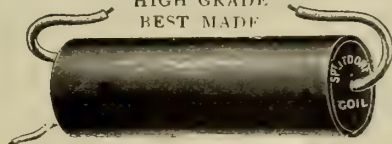
Westerners Returning From New England Seacoast and Mountain Resorts

To Pittsburg, Pa., and points on the Pittsburg & Lake Erie Railroad, will find the schedules and through train service, via Boston & Albany and New York Central, thoroughly up to date. Pullman Sleeper leaves Boston 10:45 a. m. daily, except Sunday, arriving Pittsburg 6:02 next morning. Dining car service enroute at convenient hours.

Copy of "Westbound," containing detailed schedule and train service of this and other through sleeping car lines west over New York Central lines, can be obtained upon application to Ticket Agent or Passenger Department, Boston & Albany R. R. ***

SPLITDORF SPARK COILS.

HIGH GRADE
BEST MADE



C. F. SPLITDORF, 17-27 Vandewater St., New York

We made

Our Fight for Quality.

With us it was quality first,
quality last, quality
all the time.

As a natural result the

PERSONS SADDLE



is now everywhere recognized

as

The Saddle of Quality

and the one for

Bicycles of Quality.

If yours are bicycles of the sort
we naturally feel that we
merit your orders, or at
least a fair chance
to obtain them.

PERSONS MFG. COMPANY,

C. A. PERSONS, Pres't,

Worcester, Mass.

FALSE ECONOMY

Dangers That Come From Trying to Save on Motor Bicycles.

Editor *Bicycling World*: With the increasing interest in motor bicycles there will undoubtedly spring up—in fact, has already sprung up—a large number of persons who, possessed of the idea that they can make their own motor bicycles and save money by so doing, will buy motors and other parts and attach them to the ordinary motorless bicycle, and please themselves with the thought that they have turned out a motor bicycle as good as the best, and pat themselves on the back for their smartness in saving the manufacturer's and dealer's profits. I have recently had shown to me three such contraptions, and they certainly were burlesques on the up to date motor bicycle. Yet each owner was proud of his creation, and dilated with great glee anent the \$50 saved by his ingenuity.

There never was a more glaring example of being penny wise and pound foolish. After all their bother and labor of construction, and the expenditure of about three-quarters of the price of a good motor bicycle, do they imagine for a moment that they have anything that is in the same class with the Orient, Holley, Mitchell or other first class machine? They simply have a crude and dangerous affair, on which they are continually tinkering, and which at any moment is liable to collapse to their great personal injury. In a letter received at the time of this writing I am told of one such accident, caused by the splitting of the wooden rim of a twenty-three pound bicycle to which a motor had been attached. The rider was badly banged up, and will lose considerable time out of the shop, at a financial loss, and has nothing but a broken wheel and motor attachments in return for over \$100 paid for the motor, quite a bit out of his salary for lost time and much personal suffering. It also hurts the sport, for outsiders make no distinctions or allowances. It would have been actual money in this man's pocket to have bought the most expensive motor bicycle now on the market.

If one is a mechanical genius and has conceived an improvement in motor bicycles he is justified in first experimenting with a crudely built affair embodying his ideas in order to determine their practicability before giving them to a waiting world. But the man who simply tries to make his own motor bicycle from a false notion of economy should be discouraged. I notice that one of the leading motorcycle manufacturers, in a very attractive catalogue just issued, takes this view of the matter, and refuses to cater for such trade.

Our motor bicycle makers have skill and experience; they are putting forth every effort to perfect their product, and now offer the public machines wonderful in construc-

tion and efficiency, and the end is not yet. If one has time to spare in forming opinions re motorcycles let him use it in selecting one of the styles now offered for his consideration, and not try to eclipse in odd moments what professionals have spent years and money in bringing to their present condition. If you wish to see how fine a machine can ultimately be turned out by a combination of brains and money, the way to realize your desire is to buy a motorcycle now, ride it, compare it with other makes, and then if you have ideas send them to the manufacturer. He can tell you if they are valuable or if they have been exploded long ago—nine times out of ten the latter is the case. Thus encouraged and spurred to do their best, those who have great interests at stake will leave no stone unturned to bring forth a motorcycle satisfactory from every point of view.

F. A. ELWELL.

Cement Must be Renewed.

Rubber cement always loses its "life" in the course of time, and needs to be renewed. Particularly is this true in the case of plugs in tires. One may hold for two or three years, although this is rare, but the time is certain to come when it will cease to hold air. It does not go all at once, nor drop out of the hole, but it will begin to leak around the sides, and the longer it is left unattended the worse it becomes.

The proper thing to do, of course, is to take it out of the tire and put it or another one back with fresh cement. Then it will hold air all right, and the tire will be as good as new in that particular place.

Automobile vs. Motor Bicycles Again.

"See that hand?" remarked the captain of the New York Motor Cycle Club to a *Bicycling World* man on Monday last, extending his right hand as he spoke. "That's about all it is good for to-day—to look at. It's so stiff and sore I can hardly use it. It comes of steering an automobile for about fifty miles on Sunday, and has helped convince me that there's nothing like a motor bicycle. The Sunday before I rode one sixty miles, and the day before that nearly 100 miles, and yet I didn't have an ache or pain or stiff joint anywhere."

Another Advantage of Coaster Brakes.

One very decided advantage of the coaster brake was recently illustrated in a most curious manner. A bicyclist ran over part of a heavy horseshoe which flew up and became caught between the chain and the sprocket. In place of throwing the rider all over the road, as would have probably been the case had a fixed gear been used, the rider came off scot free and but slight damage was done, hardly more than scratching the enamel.

The Retail Record.

Grand Forks, N. D.—Lyons & Co. succeed South Side Bicycle Co.

Toronto, Ont.—William Mathieson, fire; loss small, fully insured.

Franklin Falls, N. H.—Frank Garrick succeeds W. J. McDuff.

Harrisburg, Pa.—Andrew Redmund, agent, execution issued against for \$893.80.

HOW WE DO LOOK

Some Characteristic Attitudes of Various Characters While Bicycling.

From passing shop windows and projecting mirrors along the streets of towns we pass through most of us gain a more or less correct notion of our appearance when riding a bicycle, so far as a front view is concerned, but we can form but a very poor guess of the amusing appearance of a view of our backs when riding. Perhaps it is better thus, as a knowledge of the peculiarities of our positions and antics might spoil many an enjoyable day's ride, concludes Cycling.

With arms extended and one leg already getting into position to reach the ground as a haven of safety, the novice commences his wabblings on the wheels, which a little practice will make an everlasting source of pleasant country ramblings and healthful exercise. When practice has made perfect a view of the back of the self-same cyclist will at once convey an impression of the ease and confidence with which all experienced cyclists stride their faithful wheels, and will require but small imagination to believe that the expert rider who ambles through shady glades and over sunny plains has a fount of rational pleasure in his cycling.

The mere peculiarities of a novice and an expert rider provide but little amusement when compared with many who frequent our country lanes and suburban highways, and who can be told their different calls in life, or traits of character, by the simple method of studying backs.

The man who has ridden horseback before he fell a victim to the charms of the cycle can be selected from hundreds of others by the unique outward bend in his legs, cultivated when spanning the broader saddle of a horse and adhering to him even when awheel. He enjoys his cycling, no doubt, but he is still convicted by his back of being a horseman on a cycle.

Evidently on business bent is the city clerk who uses his cycle as a cheap and rapid means of transit, the evidently slow and careful pace to avoid the accumulation of dirt, or the downfall of stiff linen, are all as plainly read as the leaves of a book in a glance from behind our city wheelman.

Who could mistake the back view of the legged, stiff backed specimen who ambles his few miles daily? We can scarcely expect him to enthuse on the pleasures of cycling in a hundredth degree as strongly as the scorching who, flying the black flag of the road, as it were, constantly keeps an eye behind for some worthy rival in speed, and is never so happy as when expending his surplus energy bred of good health and fitness in treating some kindred spirit to a touch of his powers by "leaving him standing still." He may perspire, he may feel uncomfortable; but he cannot disguise his health and spirits from any casual observer of his back view.

As surely as a man's character and pursuits can be told by his features or his actions, so surely can he be read by his back view on the bicycle. Just one day's study will convince any one that a back view is a telltale view, and that we are more amusing from the rear than we ever imagined.

WHY THEY WEAR

How Ratios of Links and Teeth Effect Chains and Sprockets.

To those given to speculating on the endless circle through which condition move, the following will prove interesting.

In the Cyclist, of England, there recently appeared the following paragraph:

"It is possible that many of our readers may regard the advice we are about to give with regard to chains as altogether too finikin to be serious, but it is the outcome of the experience of a practical man who has put it to the test again and again, and always with good results. Whenever in his large repairing connection he has omitted to follow it, he has had or heard of trouble. The tip has to do with the replacement of chains after they have been removed for cleaning and lubrication treatment, according to Colonel Crompton, R. E. This treatment is now too well known to need repetition here. What our practical friend so strongly urged is that before the chain is removed from the chain wheel a link on the chain and a tooth on the back chain wheel should be marked by a punch or scratched with a file, so that the chain may be replaced exactly as it was detached. Then, says our practical man, the chain will run sweetly and quietly, whereas if this precaution be not taken, no matter how thoroughly Cromptonized, it is all Lombard Street to a china orange that for some time after replacement the chain will squeak and scroop more or less. On first consideration it seems extraordinary that this should be so, as in the course of running each tooth of each chain wheel sooner or later engages with every link on the chain, and certainly we have never found it necessary to replace the chain in the old position. But the tip comes from so sound a source that we shall follow it in future, and so advise our readers. It is but little extra trouble, can do no harm, and may do good."

Some years ago—in 1896, to be specific—a member of the Bicycling World staff received a query, and it will be noted that the basic question is alike in both instances. The letter read as follows:

"Given a chain of 54 links, and a sprocket of 18 teeth, and taking one link in that chain, it will be found that it engages with only one particular tooth every time it reaches the sprocket, and that such engagement occurs at every third revolution of the crank.

"Now imagine a bicycle absolutely identical with the first, except that it has only 53 links in the chain. Taking any one link as before, this will engage in turn with every tooth on the sprocket before coming back to the tooth originally selected, and this will only take place after 53 revolutions of the crank. I presume that with the theoretically perfect chain and sprocket the run-

ning would be equally good in both cases. But is it so in practice?"

To this was given a reply, the reading of which will show that it also covers the instance brought up by the Cyclist. The reply, in detail, read as follows:

"The entire matter is one which any practical gear cutter would recognize as the old problem of the factor of the chasing tooth. When two gears are in mesh and the number of teeth of both gears has a common division, the number of revolutions which each gear makes before the original position from which they were started again comes about is determined by that divisor. That is, if two gears of 20 teeth each should mesh together, every tooth has a mating tooth with which it meshes at each revolution, where, as if one gear had 20 teeth and the other 21, the 20-tooth gear would revolve 21

17)	62	(3	11
17)	61	(3	10
17)	60	(3	9
17)	59	(3	8
17)	58	(3	7
17)	57	(3	6
17)	56	(3	5
17)	55	(3	4
17)	54	(3	3
17)	53	(3	2
17)	52	(3	1
17)	51	(3	0
..	..	50	17

"By adding the column of revolutions we get 50 sprocket revolutions, made up of 16 series of 3-sprocket revolution, and as each series of 3 sprocket revolutions, and 1 of 2 sprocket revolutions, and as each series represents a chain revolution, we also applies to the rear 7-tooth sprocket; that is, there would be 7 chain revolutions and 50 sprocket revolutions. But in the case of the 17-tooth crank sprocket and 51 links there is the common divisor of 17, which would give 1 chain revolution and 3 sprocket revolutions, and with the 51 links and 9 hub sprocket teeth there is the common divisor of 3, which gives 3 chain revolutions and 17 sprocket revolutions, as proved in the following table:

Teeth.	Links.	Sprocket revolutions.	Links over.
17)	51	(3	0
9)	51	(5	6
..	6	..	..
9)	57	(6	3
9)	54	(6	0
..	..	17	3

"Therefore the rule is: When there is no common divisor for the links and teeth, the links in the chain represent the sprocket revolutions, and the teeth in the sprocket indicate the chain revolutions. When a common divisor obtains, the chain quotient represents the sprocket revolutions and the sprocket quotient the chain revolutions."

So far it has been shown at which revolution of each, the chain and sprockets come to the original starting point. To find when both the sprockets and the chain come to the original starting point, find the lowest common dividen of the two chain revolutions. This will show that with the 17-7-50 combination the chain would revolve 7 times 17, making 119 revolutions, and that the front sprocket has duplicated its 50 revolutions in each set of 17 chain revolutions 7 times, making 350 revolutions, and that the rear sprocket has duplicated its 50 revolutions in each set of 7 chain revolutions 17 times, making 850 revolutions before reaching the original starting point. The 17-9-51 combination shows the chain revolution as 1x3, making 3 revolutions, and the front sprocket duplicating its 3 revolutions in the one set of 1-chain revolution 3 times, making 9 revolutions, and that the rear sprocket has duplicated its 17 revolutions in each set of 3 chain revolutions 1 time, making 17 revolutions. So that we have in the 17-7-50 combination 350 revolutions of the front proc-



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

times, and the 21-tooth 20 times before the two starting teeth would mate.

"The same rule applies to the chain and sprocket on a bicycle, the chain being simply a flexible annular gear. If the 50-link chain be laid out in a straight line and considered as a rack, and the 17-tooth sprocket run over it as a pinion, the tooth of the sprocket which started in the first link would make two complete revolutions on the chain, with 16 links left over. The sixteen, added to the original 50, would make a chain of 56 links, over which the sprocket would make three complete revolutions and leave 15 links over. These again added would give a result of three revolutions and 14 links over, and so on, until the 50th revolution of the sprocket, when the original starting tooth would finish at the last link. In tabular form this is shown as follows:

Teeth.	Links.	Revolutions.	Over.
17)	50	(2	16
..	16	..	..
17)	66	(3	15
17)	65	(3	14
17)	64	(3	13
17)	63	(3	12

ket, 850 of the rear sprocket, and 119 of the chain, and in the 17-9-51 combination 9 revolutions of the front sprocket, 17 of the rear sprocket and 3 of the chain before all members reach the original starting point. These two latter tabulations are not given as affecting the result, which is next taken up, but are given as a completion of the tabulation.

Having found the path of the chasing tooth, it is now in order to take up the question of wear. Of course, if both sprockets and the chain are perfect in their fitting the wear will be equal on all, independent of the meshing order of the chasing tooth. Should, however, the combination of 17 teeth and 50 links be used and one of the teeth, in the front sprocket, say, be poorly cut, it would affect every link in the chain in this order:

Link Nos.	Link Nos.	Link Nos.
1-18-35	7-21-41	13-30-47
2-19-36	8-25-42	14-31-48
3-20-37	9-26-43	15-32-49
4-21-38	10-27-44	16-33-50
5-22-39	11-28-45	17-34-
6-23-40	12-29-46 and then repeat.	

On the other hand, if it was a link that was defective, it would affect the sprocket teeth in the order of their numbers, as follows: Tooth No. 1 first, then 17-16-15, and so on down to tooth No. 2, until at the 18th revolution of the sprocket it would repeat in the same order. If the combination of 17 teeth and 51 links were used a defective tooth would only affect links Nos. 17, 34 and 51. If it were a link that was wrong it would only affect one tooth. The same rule, of course, applies to the rear sprocket and chain, the number of chain revolutions being the number of teeth affected, and the number of sprocket revolutions indicating the number of links affected.

From this it would seem that by using a combination of sprockets and chain which will have the greatest common divisors, not only will the wear be greatly reduced, but the machine will be much easier of propulsion. In fact, it is a possible explanation of the reason that of two machines of equal quality of construction one runs much more easily than the other.

No Sunday Repairs Permitted

"Major" Taylor's predilection for Sunday observance is well known. No infraction of the rules he has laid down for that day will be tolerated by him, no matter how urgent the case may appear to be.

This feeling was strikingly shown at Manhattan Beach track last Saturday afternoon. Taylor had just punctured his third racing tire, and had scarcely a good one left. He was booked to ride at Pittsburg on Monday night, and his trainer, who was gathering the damaged tires together, happened to drop a remark about repairing them the next day.

"Don't you do anything with them to-morrow," exclaimed Taylor, turning to him suddenly. "You wait until Monday, or else do them to-night. I won't have any work done on Sunday."

And the trainer, much against his will, was obliged to make other arrangements,

Luck in Motocycling.

That it is better to be born lucky than rich was recently exemplified in a motorcycle trouble which has puzzled every one consulted, the solution but just coming, and then by accident, which, had it occurred early, would have saved lots of guessing and money.

A local owner of a motor tricycle has this year used it for something like 800 miles, and in that time has "bled out" six or seven sets of cells. When the first set went down he attributed it to chance, the chance being a poor set of cells or else a switch plug left in and grip turned on. When the second set went down he thought there might be a short circuit in the wiring, and went carefully over that without finding any trouble. The third set lasted the usual average, and then some one told him his coil was at fault. Testing of the coil by the maker disproved the theory of "some one."

The early draining of the fourth set of cells led to a belief in a hoodoo, but, unlike too many motocyclists, he did not condemn motocycling. He was wise enough and level headed enough to believe that it was "up to him," and he made up his mind to stick to the problem and fight it out on the General Grant plan—if it took all summer. About the time of the sixth or seventh set a friend came along at the opportune moment who explained the entire trouble.

It seems that from the first the owner had been in the habit of testing his cells before

putting them in, by flashing a connection across the poles of each. To aggravate this he also disconnected one of his primary wires each time before starting out for a ride, and drew the end across the ribs of the motor to see if he had a spark. Of course, each time he did this a large amount of current was taken out of the battery, and but few "flashings" were needed to entirely drain them. The opportune friend explained matters, and the set now in will probably last for as long a time or more than all the previous cells used.

The friend is in the motorcycle business, and as he has had some heartbreaking experiences with motor bicyclists, who invariably blamed the makers every time they did just some such wrong thing as this, his admiration is intense for this owner, who from the start believed himself guilty and stuck to it until he found out where he was at fault.

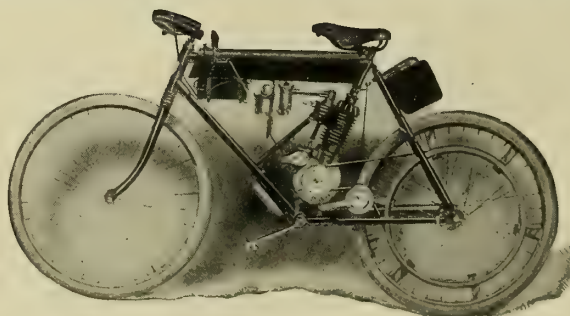
Care in Applying Coaster-Brakes.

There is one thing which repairers should be careful about when making repairs which necessitate the removal of the rear wheel when a coaster-brake is in the equipment. That is the adjustment of the device when the wheel is put back in the fork ends. Nothing will make a customer more angry than to find his brake does not work properly after it has left the shop. There is also a possibility that accidents may happen at critical moments. A little care in this direction will always prove a good investment.

IMMEDIATE DELIVERY!

We can make Immediate
Delivery of

MARSH MOTOR CYCLES



We have the largest factory in the United States devoted exclusively to the manufacture of motor cycles, and have a proposition for agents that is to say the least, interesting. If you are out to make money, write us at once and we will let you know how.

MOTOR CYCLE MFG. CO., BROCKTON, MASS.

The Week's Patents.

706,549. Coaster-Brake. Charles Glover, New Britain, Conn., assignor to P. & F. Corbin, a corporation of Connecticut. Filed June 11, 1901. Serial No. 64,098. (No model.)

Claim.—1. In a brake mechanism for coaster-brakes and the like, a stationary block having two recesses therein, two curved brake shoes, one end of each of said brake shoes being adapted to fit within said recesses and means to operate said brake shoes, substantially as described.

2. A brake mechanism for coaster-brakes and the like, comprising a plurality of hinged brake shoes, a stationary support therefor, a double acting cam pivotally mounted between the ends of said brake shoes, an arm projecting from said cam, a shoulder on said arm, a wheel hub, an axle, said axle being located in the path of movement of the shoulder on said cam arm and means for operating said cam, substantially as described.

706,594. Bicycle Pedal. Anthony Pherson, Rochester, N. Y. Filed Sept. 10, 1901. Serial No. 74,939. (No model.)

Claim.—1. The combination with a pedal; of a toe clip comprising arms pivoted to the under side of the pedal to swing laterally thereof, means connecting the arms to move in unison, and means for clamping the arms in adjusted position, substantially as described.

2. The combination with a pedal; of pivot pins upon the pedal, a toe clip comprising arms formed with slots and open bearings, said bearings receiving the pivot pins, clamping bolts passing through the pedal and slots, and nuts upon said bolts, substantially as specified.

706,718. Bicycle Stand. Walter S. Bradbury, Willimantic, Conn. Filed Oct. 17, 1901. Serial No. 79,033. (No model.)

Claim.—1. A bicycle rack, consisting of a rotatable vertical spindle, a ring concentric with said spindle, fixed hooks suspended from said ring to receive the rim of the front wheel of a bicycle, a disk on said spindle in proximity to said hooks and having notched periphery, and a second disk fixed to said spindle near its lower end and having notched periphery, the notches of which are in vertical alignment with the notches of the upper disk and with the said hooks, as set forth.

706,783. Automatic Cycle or Bicycle Skate. Elias E. Ries, New York, N. Y. Filed May 8, 1897. Renewed Dec. 28, 1901. Serial No. 87,627. (No model.)

Claim.—1. In a motor skate the combination of a base plate or frame carrying the driving and pilot wheels, a bodily depressible footplate having suitable pivotal or hinged connections with the said base plate, and driving mechanism operatively connected with said footplate and acting upon said driving wheel or wheels.

2. In a skate, the combination of a base plate, with a depressible footplate pivotally connected to the said base plate at the toe portion of the said footplate, and a guide or guides between the footplate and base plate at or near the heel portion of said footplate.

706,859. Sparker for Explosive Engines. Harry H. Segner and Charles B. Segner, Hagerstown, Md., assignors of one-third to Arthur S. Dornblaser, Hagerstown, Md. Filed Sept. 13, 1901. Serial No. 75,244. (No model.)

Claim.—1. In an explosive engine, the electric sparker comprising a stationary electrode, a movable electrode, and a spring of the form described mounted on a rectilinear-

ly reciprocating rod and arranged to contact with a strike connected with said movable electrode and throw said movable electrode into contact with the stationary electrode, and then release the same, and means for separating said electrodes, substantially as set forth.

706,944. Pneumatic Tire Valve. Harold W. Hodgetts, New Haven, Conn., assignor of one-half to William J. Hodgetts, Wallingford, Conn. Filed Dec. 23, 1901. Serial No. 86,882. (No model.)

Claim.—1. In a valve for pneumatic tires, the combination with a tubular valve body containing a valve chamber formed at its outlet end with two annular valve seats located one above the other, and one being larger in diameter than the other, of a ball valve located in the said valve chamber and adapted in diameter to be seated upon both of the said valve seats, a tubular stem formed with a hub to which the said valve body is secured, and with a grooved flange the groove of which receives the lower end of the said valve body, a packing washer located at the bottom of the groove in the said valve and prevented from being squeezed outwardly by the outer wall of the said groove, and means located in the longitudinal passage of the said stem for preventing the ball valve from closing the said passage.

707,012. Velocipede Driving Gear. Francis A. Rich, Karangahake, New Zealand. Filed Oct. 31, 1900. Serial No. 35,022. (No model.)

Claim.—1. A changeable speed gear for velocipedes, comprising an ordinary friction clutch free wheel sprocket and a sprocket consisting of inner and outer members normally loose relative to each other, means for shifting a driven mechanism into operative engagement with said free wheel sprocket or with said outer member at will, a rocking clutch for connecting together and for disconnecting said inner and outer members, a friction roller revolvably mounted upon said rocking clutch, and a rocking plate provided with guides for engaging said roller for the purpose of shifting said clutch.

706,453. Convertible Bicycle Rest. William B. Rignall, Edinburgh, Scotland. Filed Nov. 18, 1901. Serial No. 82,736. (No model.)

Claim.—1. In a bicycle rest, the combination with a pedal shaft or axle and a supporting plate at the outer end thereof, of a pedal frame pivoted to said plate and adapted to swing downwardly to constitute a support for the bicycle, a plate fixed to and connecting the parallel members of said frame at their inner ends having a recess therein adapted to embrace the under side of said axle, an upright secured to the bearing sleeve of the pedal on said axle, and a spring-actuated retaining device fulcrumed on said upright and provided with engaging portions adapted to co-operate with the latter plate for retaining said pedal frame in raised position, said pedal frame being of such length that the plate on its free end will reach to the ground when swung downwardly.

Through Sleeping Car Line to Grand Rapids, Mich.

A Pullman Sleeping Car of latest construction is now attached to New York Central train leaving Grand Central Station at 4:00 p. m., daily, running through over the Michigan Central, arriving at Grand Rapids at 12:55 p. m., next day, connecting in Union Station for all points in Western Michigan. For information and sleeping car reservations inquire of New York Central Agents



DE LONG Motorcycles

ALWAYS GIVE SATISFACTION.

There are no tanks or
bags attached to it.

FULLY PROTECTED BY PATENTS.



PRICE \$200.

INDUSTRIAL MACHINE CO.

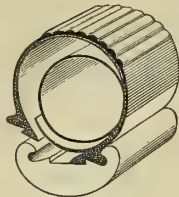
SYRACUSE, N. Y.



G & J TIRES

MADE FOR THOSE WHO WANT THE BEST.

They are detachable, double tube; are made from the best materials; ride easiest and wear longest. Anyone can repair them anywhere.



Catalogs and Prices on Request.

G & J TIRE CO.

INDIANAPOLIS, U. S. A.

Makers of G & J Tires for Bicycles, Motor Bicycles, Automobiles and Driving Wagons.

HAND AND FOOT PUMPS,

Oilers, Repair Tools, Valves, Name-plates, etc.

Spelter Solder

Sheet Brass, Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
423 Broome St., New York

HIGH GRADE

wheels must have the best equipments.

There is nothing that gives more value for the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless Rocker Joints. Insist on having the Morse Twin Roller. Fits regular sprockets.

Send for Catalogue and Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

TAKEN FOR DEBT—Will sell cheap. Merkel \$150. This years Auto-Bi 2 h. p. \$145. Marsh \$125. All new and uncrated. 2 3-4 Orient hardly used \$175. Bargain. A. O. care Bicycling World.

WANTED—Young man for automobile, bicycle and general repair shop, steady position. C. H. MINCHIN, Greenwich, Conn.

A New Chain Lubricant. Sample stick for a 2 cent stamp. G. W. YAW, Dowagiac, Mich.

FOR SALE—3 1-4 Aster Orient Motor Cycle—Tank, Oiling Device, 26 inch wheels, 2 1-2 inch Dunlop Tires. Good Condition, \$250. O. A. Bicycling World.

FOR SALE

Automobile and Bicycle business located in Massachusetts. "Official Blue Book" and "Harvard Station." The only auto store in the city, or within 14 miles. Well established (7 years) and equipped with tools, machinery and power. A rare chance for the right person. Good reason for selling. Address
E. I., care Motor World.

ALL ROADS ARE EASY WHEN THE



STAR BALL RETAINER
IS USED.

With millions in daily use, it has stood the test for more than five years, and is adaptable to ball bearings of any kind.

If you are users of ball bearings we would be pleased to hear from you and mail you our catalog with the latest information, which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.

WANTED.

TO BUY JOB LOTS OF

Bicycles, Tires, Sundries and Fittings.

WRITE US WHAT YOU HAVE TO SELL.

E. P. BLAKE CO., 57 Sudbury St., Boston, Mass.

You all know what the diamond stands for among precious stones. You can't well afford not to know that

D-I-A-M-O-N-D-T-I-R-E-S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

The 1902 BRECKENRIDGE GAS LAMP

The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY

THE NATIONAL CEMENT & RUBBER MFG. COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

Wolff-American Bicycles.

STEARNS BICYCLE AGENCY,
General Distributors,
SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that concerns his business this blank will be hint enough:

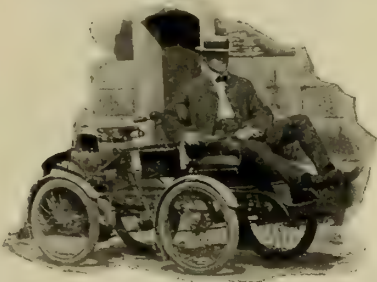
THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription to the BICYCLING WORLD for one year, commencing with the issue of.....

Name.....

Address.....

A CANDA QUADRICYCLE, \$195

Brand new. Carries two. 2½ h. p. air-cooled gasoline engine. The engine alone is worth almost this amount. Get our new catalog on auto supplies, 500 illustrations.

A. L. DYKE, 1402 Pine St., St. Louis, Mo.

**The Only Tires Fit For
Motor Bicycles—**

**GOODYEAR
DETACHABLES**

GOODYEAR TIRE & RUBBER CO., AKRON, OHIO

"PERFECT"

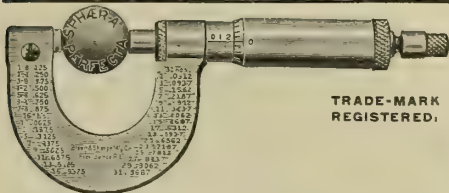


OILER.

For High Grade Bicycles. The best and neatest Oiler in the market. **DOES NOT LEAK.** The "PERFECT" is the only Oiler that regulates the supply of oil to a drop. It is absolutely unequalled. Price, 25 cents each.

We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK



**STEEL
BALLS**

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.
That every ball is within 1-10,000 of an inch of exact size.
That the balls are made of the best quality of true crucible tool steel.
That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

The Week's Exports.

None of the large buying nations were prominent in last week's export manifest, Holland's purchases and those of Africa being the features. The record in detail follows:

Amsterdam—7 cases bicycle material, \$9,020.
Antwerp—1 case bicycles, \$30; 6 cases bicycle material, \$349.
Barcelona—1 case bicycles, \$21.
Berlin—1 case bicycles, \$20.
British Guiana—2 cases bicycles and material, \$113.
British East Indies—1 case bicycles, \$120.
British Australia—149 cases bicycles and material, \$4,078.
British West Indies—49 cases bicycles and material, \$1,495.
Bremen—1 case bicycles, \$25; 1 case bicycle material, \$50.
British Possessions in Africa—191 cases bicycles and material, \$10,681.
Christiania—1 case bicycles, \$30.
Copenhagen—9 cases bicycles, \$150; 58 cases bicycle material, \$911.
Cuba—5 cases bicycles and material, \$159.
Dutch West Indies—11 cases bicycles and material, \$308.
French West Indies—1 case bicycles, \$35.
Glasgow—3 cases bicycles, \$90; 5 cases bicycle material, \$196.
Genoa—3 cases bicycles, \$170; 17 cases bicycle material, \$765.
Havre—73 cases bicycles, \$1,375; 12 cases bicycle material, \$989.
Hango—1 case bicycles, \$30.
Hamburg—14 cases bicycles, \$425; 17 cases bicycle material, \$746.
London—3 cases bicycles, \$75.
Liverpool—53 cases bicycles, \$740; 69 cases bicycle material, \$933.
Mexico—4 cases bicycles, \$89.
Naples—1 case bicycles, \$30.
Rotterdam—41 cases bicycles, \$1,572; 24 cases bicycle material, \$670.
San Domingo—1 case bicycles and material, \$20.

Concerning Carbide.

According to the report of a German calcium carbide manufacturer, 650 tons of lime and 615 tons of coal are theoretically required to make 1,000 tons of carbide. But in practice 1,025 tons of lime and 710 tons of coal are necessary to make that quantity of this valuable compound. According to this report, one pound of carbide should cost a little less than two cents.

**MANY WHO
SCOFFED**

the Cushion Frame remain to praise it and to wonder how or why they once failed to appreciate its great benefits.

There are still those who scoff but the number is daily growing beautifully less. It is our experience that the scoffer is usually a person who has never given the

**Cushion
Frame**

a fair trial.

They ride rigid "boneshakers" for no better reason than "just because."

Is it possible that you are one of them?

HYCIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.

**"MOTOCYCLES AND HOW
TO MANAGE THEM"**

REVISED EDITION

BOUND IN CLOTH

The only Book of the Sort in Existence

CONTAINS A MINE OF VALUABLE
INFORMATION

PRICE, ONE DOLLAR

THE GOODMAN COMPANY

123-125 Tribune Building, - New York City

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway • New York 435 Vine St., • Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburgh
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., • Buffalo 77 Campus Martius, Detroit
212 Clark St., • Chicago 2 King St., East, Toronto, Ont.



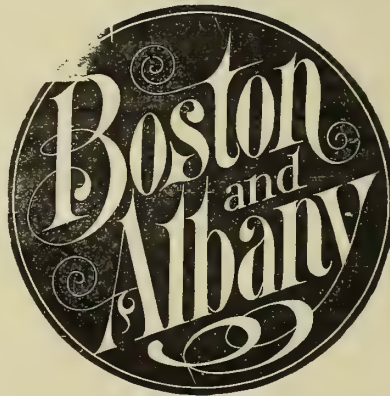
The Authority of the Cycle World
RELIABLE NEWS
ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.
Unbiased opinions on mechanical matters.
WEDNESDAYS, ONE PENNY.
Through all Bookstalls and Newsagents or from the
Publishers
ILIFFE & SONS Limited,
3, St Bride Street, London, E.C.
and 100 FORD STREET, COVENTRY

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect June 15, 1902.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	3.15 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars
running through to Chicago.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

**DOUBLE DAILY SERVICE
TO OMAHA**

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines. **A. H. HANSON, G. P. A., Chicago.**

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

**St. Louis, St. Paul,
Minneapolis**

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

**THE
IRISH CYCLIST**

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, August 28, 1902.

No. 22

NOTHING DOING YET

A. B. C. Directors Again Meet and Adjourn Without Action—Securities Throb.

The directors of the American Bicycle Co. met again this week—on Tuesday—and again adjourned without action of public moment.

It was expected that Col. Albert A. Pope would finally succeed to the presidency, but one of those in position to know states that it is now unlikely that that will come to pass before the annual meeting in October, at which time President Coleman filed notice that he would positively retire.

The cause of the hitch in the programme is not definitely known, and is ascribed to various causes, none of them authoritative.

Wall Street is reflecting the throbbing that is apparently going on within the company. The stock and bonds have been very active during the week, showing losses in both common and preferred stock and in the bonds.

On Monday 3,100 shares of common were sold between 6 $\frac{7}{8}$ and 6 $\frac{3}{4}$, and \$10,000 bonds at 63.

On Tuesday 2,700 shares of common were traded between 5 $\frac{7}{8}$ and 6 $\frac{1}{2}$; 300 preferred at 18.

On Wednesday 5,000 shares of common changed hands between 5 $\frac{1}{2}$ and 6 $\frac{1}{4}$; 500 shares preferred at 18.

Thursday the stock was one of the most active on the list, lots of 1,800 shares selling at 5 $\frac{1}{2}$; another one of 2,300 at 4 $\frac{7}{8}$; 2,800 at 5. Eighteen thousand seven hundred shares were sold, showing a net loss of one point. Two hundred shares of preferred sold for 17 $\frac{1}{2}$, showing a net loss of half a point, and \$3,000 in bonds sold for 61, and \$5,000 for 60.

Parcels To and From England.

Beginning September 1 the postoffices of Great Britain will accept parcels for transmission to the United States.

The various attempts of the British Government to conclude a parcels post arrangement with the United States having resulted in failure, the British Postoffice Department has arranged this independent service.

The Cunard and White Star lines will con-

vey the parcels to the United States, and the American Express Co. will deliver them in that country. The charges to principal points in the United States will be 24 cents for each three pounds up to six pounds, 72 cents for packages weighing from seven to eleven pounds, with an additional charge of 24 cents as a British customs clearance fee. The United States customs fees will also be added.

The weight and size limitations of parcels accepted under this service will be the same as those now adopted in the British inland parcels post—a maximum weight of eleven pounds, and a maximum of six feet for length and girth combined.

A similar parcels post service is to be inaugurated from the United States to Great Britain.

Racycle Adds a Greyhound.

It is now possible to state authoritatively that the reports of the coming of a Racycle racer on radical lines were correct. It will be styled the Racycle Greyhound, and is almost ready for the market. In appearance the machine is an optical illusion. It has a perfectly vertical seat mast and virtually no head, the lower tube of the frame being placed at an angle that leaves little room for one. As a result, the machine has what seems a fearfully long wheel base, but which is in fact, no longer than usual. It gives the machine an elongated, greyhoundish appearance, hence its name. It is by no means improbable that the Greyhound will also carry the Miami Co. into the racing game.

Wood Rim Trade Grows Strenuous.

That there is "something doing" in the wood rim trade, the announcement of the Tucker Bicycle Wood Work Co., on another page, makes evident. The fact that the Tucker people will hereafter market the well known Rastetter rim in connection with the Tucker rim, and declare that they will meet any price that they may be quoted shows how strenuous is the situation.

Paris Show Dates.

The fifth international exhibition of automobiles, cycles, etc., organized by the Automobile Club of France, will take place at Paris, in the Grand Palais of the Champs Elysees, from December 10 to 25.

BIG MEETING PROBABLE

Jobbers Invite Makers to Meet Them at Albany—General Acceptance Likely.

The meeting of the New York State Association of Jobbers of Bicycle Supplies, at Albany on September 16, promises to be more important and far reaching than appeared at first blush; indeed, it is probable that it will prove the largest trade gathering—cycle shows excepted—that has occurred in a term of years.

This is likely, as it has come out that the jobbers' association have extended a general invitation to the manufacturing trade to meet them in joint session on the 17th, the day following the jobbers' meeting.

That the invitation will be generally accepted is reasonably certain, and while the attainment of "a mutual understanding" is given as the object of the joint conference, the form it may assume or whatever else may grow out of it is not unlikely to have more bearing on next year's business than now appears on the surface.

Thomas Meets his Lieutenants.

W. K. Thomas, sales manager of the Miami Cycle and Mfg. Co., was in New York during last week, and while here held conferences with a half dozen of the larger Racycle agents, among them Nelson S. Davis, who looks after New England, and Frank C. Storck, of Red Bank, whose portion includes a rich slice of New Jersey.

Asked whether the Racycle people would join with other manufacturers in talking price, Thomas thought they would be found not unwilling to do so.

"But after it is all over," he added, "it will be found that the price of the Racycle is just a bit higher than the others; it's worth more, you know."

No Truth in the Report.

The story that the Park City Mfg. Co., Chicago, makers of the D. & J. hanger, were arranging to remove to Webster City, Iowa, is emphatically denied by the company. President Judd states that they know absolutely nothing of such an arrangement, the publication of the report being as much of a surprise to him as to any one.

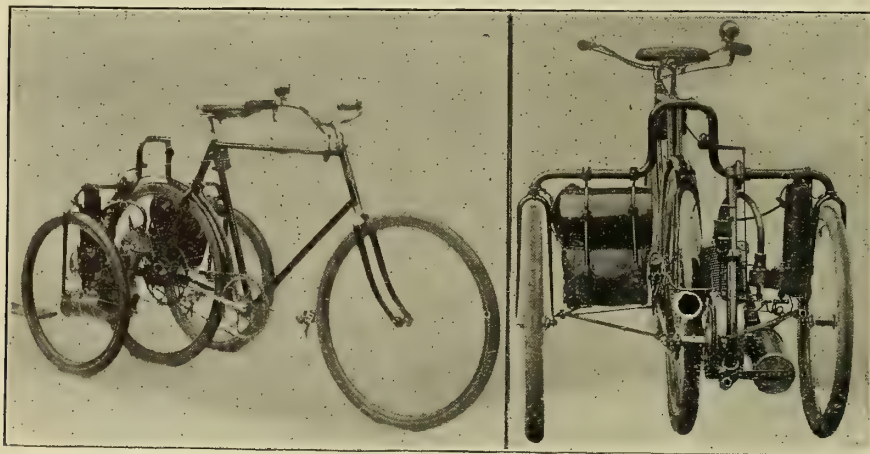
BELCHER'S CONVERTIBLE

His Ingenious Device for Transforming a Motorless Bicycle Into a Motor Quad.

Of the many efforts to convert the ordinary safety bicycle into a motorcycle—not a motor bicycle—the palm for originality and ingenuity is easily due W. J. Belcher, the chief draughtsman for the Billings & Spencer Co., Hartford, Conn., whose creation is shown by the accompanying illustration.

As will be seen, the device consists substantially of a yoke and motor mounted on two wheels which “straddles” the rear wheel of the bicycle to which it is coupled, and from which it may be uncoupled at the will of the rider. When applied the bicycle becomes a quad, with three rear wheels.

One of the main objects of the design is to obviate as far as possible the severe vi-



brations and dead weight of the motor and appurtenant parts of the driving mechanism upon the main frame of the machine.

A pair of wheels are supported in forks at either end of a yoke, which is designed to straddle the rear wheel of an ordinary bicycle, and is provided with clips, by which it may be attached to the main frame. At one side of the device a $2\frac{1}{2}$ horsepower air cooled motor is mounted, and its main shaft is connected by a belt with a driving pulley mounted at the extreme rear of the frame. A chain connects the shaft of this wheel with the sprocket upon the rear wheel of the bicycle. The induction coil is mounted at the right hand side of the yoke, adjacent to the engine, and the batteries are carried on the left hand side of the yoke, just below the gasoline tank. The electrical connections between the batteries and coil are carried within the tubular yoke or frame, and thus all these connections, as far as possible, are thoroughly protected. The engine is controlled by varying the ignition by turning the right hand grip of the handle bar, and the exhaust valve may also be controlled by a rotation of this grip. A link connection arranged concentric with the steering head of the wheel permits manipulation of the ignition timing mechanism, irrespective of

the position of the steering wheel. Adjacent to the left hand grip of the handle bar is a portable plug and block for controlling the ignition circuit.

Resilient connections are made between the driving shaft and the rear wheel of the bicycle, and between the yoke and the bicycle frame, and these give such flexibility and latitude of movement that the bicycle wheel may warp with relation to the driving mechanism without materially affecting the driving qualities. The whole device is simple and effective, and by arranging all of the driving parts upon an independent frame and flexibly securing the frame to a bicycle little or no vibration of the motor is felt by the rider.

This experimental machine has been run some 600 miles with the very best results. The whole driving mechanism and its supporting mechanism may be attached to or detached from an ordinary bicycle in a comparatively short time, and with very little

trouble, and is a self-contained mechanism, which can be built at a comparatively small expense. It is believed that this machine will appeal to many wheelmen who, residing where good roads abound, remain strong adherents of the bicycle, but who would be glad to secure a simple, inexpensive and efficient driving mechanism that might upon occasion be attached to their bicycles at a cost much less than that of the ordinary motor bicycle.

Spring vs. Rigid Frames.

Like Tennyson's brook, the discussion anent rigid and spring frames goes on. One rider, who favors a happy mean, argues thus:

“A few moments' consideration of the most economical methods of converting human energy into mechanical effect ought to at once satisfy the most biased that too much rigidity is bad and too much springiness is badalso. For instance, take river rowing, in which you have a perfectly smooth motion equivalent to perfect tires on a perfect track. It is found that a certain amount of spring (not too much) in the oars is necessary and adds to speed. Too much spring would be a decided loss. I am convinced that a limited vertical elasticity in the frame, and cranks that spring a little, are a decided gain to the rider and not a loss, as some of our mechanical friends would have us believe.”

THE “HANGING-ON” DISEASE

Malady Induced by Motorcycles—How it Affects the Inflicted and Afflicted.

The “hanging on” disease shows signs of becoming epidemic in this vicinity. If, sooner, or later, it does not result in the death or serious injury of one or more motorless cyclists, it will be due as much to the watchful care of Providence as to any other agency.

The “disease” breaks out whenever and wherever a motocyclist appears within reach of a party of motorless cyclists. When this occurs the latter are immediately stricken with the “disease.” They rush for the rear wheel of the motor bicycle and “hang on” as if glued there. On such a popular cycle way as the Coney Island Cycle Path a motocyclist cannot ride a mile without having from one to one dozen wheelmen trailing him. When they hear the bark of his motor it is no uncommon occurrence to see them slow up and await his coming; they literally “lay for” him. The most amusing part of such performances is that the matter of pace is not of consequence to the “hangers on.” A *Bicycling World* man has repeatedly tried it, and found that they will as readily “hang on” and stay there at eight miles an hour as at eighteen. It appears merely the fascination of “riding behind a motor” that is responsible for the “disease”; the factor of speed appears a minor consideration.

In some riders the “disease” is of a malignant type. They may be going in the opposite direction, but the appearance of a motor bicycle induces them to turn around and tack on. This is not usual, of course, but it is not at all uncommon. On a recent Sunday run of the New York Motor Cycle Club two wheelmen dogged the participants for an hour or more. The pair first turned from the direction in which they were going, followed the leading motocyclists for a mile or more, or until they stopped when word was received that one of their number was laid up with a puncture. They turned when the party turned, waited until the repair was made, and then “hung on” until rain fell and drove them away.

The danger of the practice lies in the quickness with which the motocyclist can cut off power and slacken speed. Unless he is watchful he can, with his heavy machine, upset the “hangers on” without trouble or danger to himself, and more than one of them has confessed to having “dumped the d— fools” purposely. One of them, exasperated by the persistence of one of the ilk, admitted that he had cut off power and let the “hanger on” strike him broadside. He then rode away without apology or offer of assistance.

Only one who has been through it time and again can appreciate how aggravating is the practice to the unwilling pacemaker. Curses occasionally serve, but usually noth-

ing short of a dismount forces the "haugers on" to go their ways. Aside from the mental exasperation, the practice has another disagreeable side. The police invariably prick up their ears when a motor bicycle comes within their hearing, and the sight of one with a crowd hanging on its rear wheel excites suspicion and invites trouble. But a few days since a Brooklyn motocyclist was stopped by a policeman for no other reason, and was obliged to put up an extended argument to escape arrest.

Elwell Outlines Next Year's Tour.

Having obtained sufficient encouragement F. A. Elwell, of Portland, Me., the veteran conductor of European tours, is now seriously organizing a motorcycle tour for 1903. He is convinced that with a good motor bicycle a cyclist can cover twice the distance with half the fatigue and three times the pleasure than possible with the motorless bicycle, and is now sending out an advance announcement of his tour for 1903, planned from his knowledge of the route to be covered and his experience with the motor bicycle. The route will embrace the countries of France, Switzerland, Germany, Holland and England, the time of starting will be the middle or latter part of June, and the return early in September, and the cost will be about \$375. The party will be limited to twenty in number. No baggage will be carried on the bicycles; it will be forwarded by train each day.

Batteries for Motor Bicycles.

The Liberty Electrical Supply Co., 136 Liberty street, this city, is the first of the metropolitan electrical supply houses to recognize the motor bicycle and to prepare for its increase. The preparation takes the form of a department stocked with those articles which it most requires—batteries, spark plugs, coils, etc. They are making a specialty of the Liberty battery, which is designed particularly for motorcycle use, and which is now stocked by nearly all the metropolitan jobbers. It is a good article at a popular price, its uniformity and long life being features that are emphasized.

How Costs Have Increased.

How the advance in steel has affected bicycle parts and fittings is well instanced by the D. & J. crank hanger. G. A. Taplin, of the Park City Mfg. Co., who make it, was in the city last week, and stated that the hanger now costs 15 cents more to manufacture than it did a year ago. For the last four months Mr. Taplin has been circulating in the East acquainting the trade with his hanger, and expresses himself as well gratified at the result. He says the demand created proves that there is still room for a really good article at a fair price when its merit is demonstrated.

"The Motor: What It Is and How It Works." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

RAIN STOPS NILSSON

**But not Until he had Broken Many Records
—What They Were.**

Rain, which so often interfered with his rival, robbed John Nilsson, of Minneapolis, of his objective—the 1,000-mile motor bicycle record made by his fellow townsman, A. A. Hansen, a few weeks before. But, while Nilsson failed of the bull's eye, he so badly shattered most of Hansen's intermediate records as to make them look like the proverbial three dimes. He covered 855 miles in all before rain forced him to desist, and while some fourteen hours ahead of the previous record.

Nilsson started on a Holley motor bicycle at noon on Sunday, the 17th, using the same course employed by Hansen, a circuit of



JOHN NILSSON.

twenty miles. The weather was then propitious, and he fairly flew, covering the first hundred miles in the record breaking time of 3:46:45, nearly one hour better than the old figures. The weather held true until near the 800th mile, records falling on every lap, or until the rain fell, when Nilsson retired for dinner. When the downpour slackened he again took to the road, but it came down again in such volume that the road was submerged in places, and in others was so slippery that riding in the dark became unsafe. Nilsson was therefore called off, after covering 855 miles; but he means to try again.

His times per hundred miles, and the previous records—Hansen's—follow:

Nilsson's time.	Miles ridden.	Hansen's time.
3:46:45.....	100.....	4:44:50
9:17:55.....	200.....	11:52:00
16:24:35.....	300.....	18:50:30
21:06:55.....	400.....	25:22:20
26:17:10.....	500.....	32:05:15
30:21:35.....	600.....	44:48:00
41:31:30.....	700.....	51:28:00
46:37:40.....	800.....	58:19:30
Total, 840 miles, 48:34:30.		

Nilsson's actual riding time was 41 hours 20 minutes, an average of 20¼ miles an hour.

Save three punctures and a spark plug that fouled near the 700th mile, he had no trouble whatsoever with either motor or machine.

Bicycle on a new Stamp.

The Bureau of Engraving and Printing is at work on the designs for the 1902 series of United States postage stamps. The design for a new border for the entire set of stamps, as accepted by the Third Assistant Postmaster General, contains an arch over the picture in the centre. In the upper right hand corners are eagles' heads gracefully arranged above an artistic scroll. The words "United States of America" will supplant "United States postage." Under the picture will appear the words "Postage" and "Four Cents" or "Six Cents," as the case may be. The picture of Grant will be on the 4 cent stamp instead of the head of Lincoln, which will replace Grant's on the 5 cent blue stamp. On the new 8 cent lilac stamp which now bears the head of Sherman, will be a likeness of Martha Washington, the first woman thus honored by the American Government. The special delivery stamp also will be changed in design and color. It will bear on the left hand side a picture of a messenger on a bicycle and will be bright red.

Men vs. Women Buyers.

"In the matter of window displays, remember that there are many persons, more particularly men, who make selections from outside, seldom entering a store until they have settled upon some definite article," says a contemporary, thereby raising a question capable of much discussion.

When a man has no exact notion of what he wants he will spend a week's odd moments in window gazing. When he sees something that he likes he enters the store, and not before.

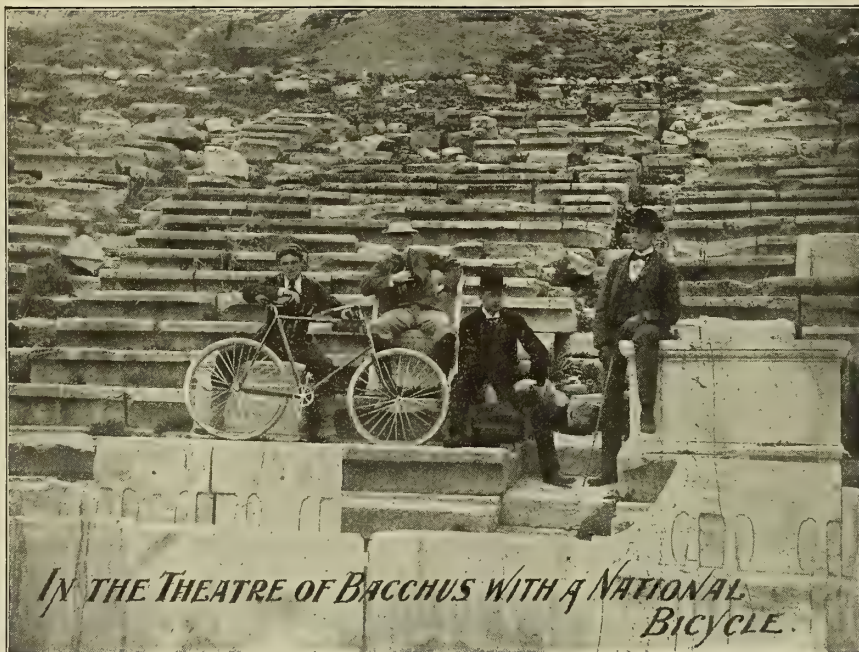
Women are not diffident about bothering clerks, but the male human never quite rids himself of the notion that he is encroaching upon somebody's precious time when he hauls over goods without intending to buy. He seldom goes out of a store without making a purchase, and he as seldom comes into one until he has decided what he wants. That decision is generally made from the window.

McCullom's Long Trip.

S. S. McCullom, a Minneapolis, Minn., cyclist, has started on a motor bicycle trip through British North America. He will follow the line of the Great Northern Railway to Winnipeg, and from there will go west about 860 miles to Regina, N. W. T. McCullom has fitted his machine with an extra size tank, and expects no trouble on the road, as the country roads in North Dakota and Canada are reported to be in excellent condition. He will be on the road a month and will travel about 1,800 miles.

Funke's Kelecom.

A. H. Funke, who is throwing a deal of energy and enthusiasm into the motor business, has brought over and is now showing at his store, in Duane street, a Kelecom bicycle, fitted with the Kelecom motor. It is an attractive creation, differing in very many particulars from American machines, and in consequence is receiving much attention and examination.



THE SAME OLD STORY.

PHILADELPHIA, PA.,

May 23, 1902.

NATIONAL CYCLE CO.,

BAY CITY, MICH.

GENTLEMEN:—In June, 1899, you sold me from the factory one of your \$60.00 wheels. There are plenty of cheap wheels for sale here, in fact, they almost give them away; but my experience with your wheels has been such that I would not think of looking further.

No. 15627 has been in constant use, averaging from ten to fifteen miles daily over all sorts of city streets, and all it cost me in repairs is: 35 cents for cone in pedal, 75 cents for two rods through front and rear hubs, 5 cents for two small balls, \$1.25 for new chain, and last spring two new Goodrich tires, the first ones having worn through the canvas, exploding only because of thinness. The wheel runs as easy as ever. This is a record hard to beat.

I do not know whether you have an agency here or not. If you can sell to me direct, please send circular of 1902 models. Yours truly, JOSEPH J. MAGIN.

A NATIONAL RIDER NEVER CHANGES HIS MOUNT.

NATIONAL CYCLE MANUFACTURING CO., - Bay City, Mich.

The FISK TIRE.

We could say a good deal, but the
tire talks for us.

SEE IF WE ARE NOT RIGHT.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday
By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00
Single Copies [Postage Paid] . . . 10 Cents
Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, AUGUST 28, 1902.

How League Officials Play Ostrich.

How badly the L. A. W. is "run down at the heel" is shown vividly by a comparison of its membership report for the month of August with that of the Cyclists Touring Club, which appears in the August issue of the official organ.

The L. A. W. reports a total of twenty applicants, the C. T. C. a total of 1,038, of whom no less than thirty four are in the United States. Of the league's twenty, seven are from New York; of the C. T. C.'s thirty-four, eight are from the same State. Thus the foreign organization apparently is doing better work, or at any rate is securing more recruits right here in our own country than the home body—surely a sorry state of affairs.

This condition of things is not at all surprising, however, and unless a sweeping change of men and methods ensues, there is no reason why matters should not become worse instead of better. The league officials lack initiative and activity, and because of

the fact the league itself lacks the attractiveness which men with ideas can impart.

The situation in the New York Division is typical of the entire league. Opposition to the officeholders has arisen, and they are thrown on the defensive. Their chief defence is that they have paid some of the division's honest debts and renewed about 70 per cent—or 2,200—of the division's membership—neither of which has required more than office work nor added an iota to the attractiveness of the organization. The officials, however, "point with pride" to the fact that the 2,200 members represent 30 per cent of the league's entire membership, where, as in the boom days, it had but 26,000 members, or 25 per cent. It is juggling with and extracting comfort from such meaningless percentages that has helped the league slide backward. How many members will be deluded by them remains to be seen, but one thing is certain, the league needs a change, and a radical one, if its health is ever to be improved.

The first opportunity to give it a change is being offered in New York, where an independent ticket, headed by Joseph Oatman, is in the field, and, individual considerations aside, it is the best opportunity the league and the division have had for several years. The independent candidates are pledged to action, not percentages.

No Desire for Change.

Just at present the most marked characteristic of the trade is a disposition to let well enough alone.

This is well illustrated in the matter of crank lengths and sprocket wheel sizes. In each case a compromise has been reached, the extremes of past years being avoided, and there is very little sign of a change.

It would be interesting to know whether a material increase in crank lengths would bring about the beneficial results claimed.

The additional leverage obtained certainly means a great deal, but the claim that it is counterbalanced by the greater distance the foot must travel has never been successfully refuted. We do know that to shorten the crank does harm; for the high gears in use cannot be pushed with any comfort unless a 6½ inch or 7 inch crank is used. But, on the other side of the question our knowledge is nil. We have done so little in the way of experimenting with 8 inch and 9 inch cranks that we have nothing on which to form an opinion.

Nor is there any likelihood of our obtain-

and riders seem to have no interest in the matter. The move must come from them, if made at all, as there is entirely too much doubt regarding the success of such an experiment to warrant makers in going to the considerable expense that would be required.

As regards sprocket sizes, the same aversion to change is to be noted, but it is based on a complete knowledge of the subject.

One Way of Retarding Sales.

Extras always were the cyclist's bugbear. Even in the days when it was necessary to pay considerably more for a good bicycle than for one of the standard patterns, owing to the practice of listing many of the best features as extras, he detested the custom.

The time came when there were no extras, when the list price of a machine covered the best that was known to the art. After a somewhat lengthy interval the earlier practice was revived, and bids fair to remain in use for a considerable time. Standard patterns are down to rock bottom, and departures of all kinds must bring an extra price, even if the amount be small.

Notwithstanding the apparent soundness of this reasoning it is a very open question whether the practice is good policy.

It undoubtedly keeps down the sale of coaster brake machines, to select one of the most conspicuous examples. Many riders would specify the coaster brake with their new machine if no extra charge were made for it. But they balk at the \$5 charge and stick to the fixed gear.

It is the same way with buyers who are not old riders. They have no prejudice against the coaster brake, and in four cases out of five would probably specify it at equal prices. But the mere suggestion of an extra charge is sufficient to nip such an intention in the bud. The buyer nearly always regards price as the first consideration.

Many tradesmen view the matter in a short sighted way. They are interested in the sale of bicycles, and the issue of fixed gear versus coaster brake is one in which they are not greatly concerned. Some of them even go beyond this, and argue that as they make the hub in the former case and some one else makes it in the latter, it is more to their interest to have the fixed gear chosen.

But the matter has a larger aspect than this. There is the rider to consider. Which type of machine will suit him the better? In most cases, it can be asserted emphatically, it is the coaster brake.

It has been said, and reiterated so often

that it may become tiresome, that the coaster brake adds to the pleasure of the cyclist as no other device since the pneumatic tire has done. It relieves him of unnecessary work, gives his riding a zest that is comparable to that of the days when he was a novice, and gives him more perfect control of the machine than he has ever been able to obtain.

It stands to reason that, all this being granted, the average rider would ride more and with greater enjoyment on such a machine than on a fixed gear. Therefore, the more the tradesman does to further the sale of the former, the more he serves his own interests.

It is a foregone conclusion that the listing of coaster brake machines at the regular price would largely increase their sale.

Advancing (?) America's Export Interests.

The offenses committed in the name of "export" are beyond reckoning. The very latest takes the form of a publication for foreign circulation which is alleged to have been issued in the interests of the American cycle and automobile industries, although one of the most conspicuous advertisements is that of a German manufacturer heralding the merits of made-in-Germany bicycles.

Another conspicuous feature is also an advertisement presumably accepted to "advance the foreign interests of the American cycle trade." It is that of a cut-price house offering "only high class, reliable goods." The bicycles are offered at \$10.50 complete, or \$7.50 stripped. Lamps, bells, pedals, saddles, chains, coaster brakes and practically everything else are offered at the same "high class, reliable prices."

The publication itself states that "none but the most responsible and reliable houses are mentioned." When the really responsible and reliable concerns notice some of the houses that are bracketed with them in the statement, if their choler does not rise and their souls writhe it will be because they are either adamant or hold their reputations cheaply. To mention but one case, we may say that to our knowledge one of the publication's "most responsible and reliable houses" has owed an undisputed bill of \$15 for nearly a year, and during that time has twice been unable to meet drafts for the amount.

As an example of the ends to which some publishers will resort for the sake of paltry gain, this particular export publication is entitled to high rank. It may serve the high class trade represented in its pages. It cer-

tainly is shaped to give a lot of second and third rate concerns a standing abroad which they lack at home.

It is understood that the publication is to be reproduced in the Spanish language, and for the real best interests of the American trade it is hoped that that issue will consume the major part of the circulation. There are few roads, few people and few bicycles in the torrid Spanish-speaking countries, and there "high class bicycles" at \$10.50 and the alleged "most responsible" concerns will do the least harm.

Giving Them What They Want.

As a rule it is best to give a customer what he wants, or even what he thinks he wants.

Successful commercialism is based on this principle the world over. It makes little difference whether it is the manufacturer, the jobber or the retailer that is concerned; the course to be adopted is almost equally plain.

"Enclosed find our check for renewal of our subscription to the *Bicycling World*. The publication is as necessary to the bicycle business as our bicycles and sundries. We would not dispense with it for ten times its price. We wish you the best success in your work, which is certainly a godsend to every dealer in whom the vital spark is alive and who is fortunate enough to be a subscriber. "HAYNES CYCLE CO., Minneapolis, Minn."

"Enclosed is the amount of our renewal for the *Bicycling World*. We are doing a good business for a small town, and find the *Bicycling World* of great assistance to us.

"A. B. MILLER, Mount Ross, N. Y.

Build or sell good goods, but don't try to force the customer to take something that may be much better for him than the article he wants, but is not what he asks for.

"We long ago gave up trying to argue our customers out of wanting a certain thing," remarked a prominent tradesman to us recently. "Within reasonable limits we bow to them, effacing ourselves except where an important policy is concerned. Nor do we even make any special effort to learn the cause of the preference expressed. It is enough that it is expressed. We assume that our customers, being right on the ground, are better able to gauge local conditions than we are, and we hold that there is nothing to be gained by trying to overrule them or induce them to change their opinions."

Almost invariably where this rule has been departed from it has turned out badly.

Even if the principal is right, or nearer right than his agent, it is sometimes better to let the latter have his way. By so doing he will sooner or later learn his mistake—if he is mistaken—whereas if he is overruled,

his pet theories demolished, he is apt to be resentful and feel that his opinions have not been properly considered.

And when such feelings get a foothold the possibility of trouble, of kicking over the traces, always exists.

A novel theory was put forth in our hearing the other day. A coaster brake enthusiast admitted that while the speed of a machine equipped with the device could be checked more easily than one with a fixed gear, the latter could be brought up more quickly, provided it was not going at too great a speed. His theory was that the best the rider with the coaster-brake could do was to lock the rear wheel and then wait for the machine to stop sliding. The fixed gear rider, on the contrary, could back pedal to such effect that after stopping the progress of the machine the continued back pedalling, tending to drive it backward, prevented any forward sliding from taking place. The theory is an ingenious one at least.

It is impossible to survey all the facts and not conclude that American manufacturers are going to be more powerful in foreign markets the coming year than ever before. England may rail against our goods and declare them trash, and Germany may attempt all the shoddy imitations they like, but the fact remains that American business enterprise and mechanical skill behind American products are factors that count in the fight for supremacy in the markets of the world.

The coming of the motor bicycle has made it difficult to distinguish the other types, the high wheel and the safety. Previously the former by common consent had been termed the "ordinary." Nowadays, and when motor bicycles and safeties are concerned, it is not unusual to hear the latter referred to as the "ordinary bicycles." The result is confusing, and has brought out the suggestion that the high bicycles be termed "hicycles." It is respectfully referred to the "gents" in "long pants" who ride "bikes."

Suppose a salesman has an article of such genuine merit that he secures an order from every buyer he visits. Suppose also that this article is new, and buyers know nothing of it until the salesman calls. Even in such an extreme case time is wasted without good reason, and the salesman covers less ground and secures fewer orders than would be the case had the goods been already introduced by good advertising.

ALL RECORDS BROKEN

FROM 1 TO 43 MILES BY

ALBERT CHAMPION

ON AN

ORIENT RACER

PACED BY AN

Orient Motor Tandem.

43½ MILES, 293⅓ YARDS IN ONE HOUR.

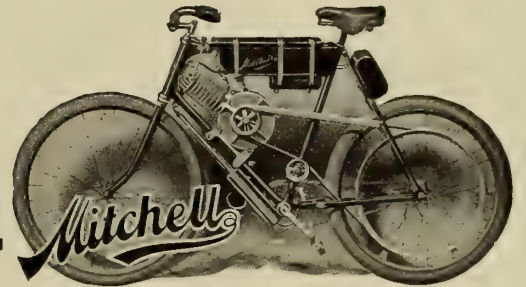
Orients cost more than other wheels, but they are built for speed and durability, and it pays in the end to buy the best. Agents offer other machines because they can make a larger profit. Do not let them make it out of you.

WRITE FOR CATALOGUE OF BICYCLES AND MOTOR MACHINES.

WALTHAM MFG. COMPANY, = = Waltham, Mass.

Mitchell MEANS

A Successful, Reliable, Practical and Satisfactory Motor Bicycle.



Mitchell
Mitchell

Agency is one where the agent gets Exclusive Territory, Protection, and the hearty co-operation of the makers and PROMPT SHIPMENT OF ORDERS.

Not a single order lost this season from delayed shipments.

Agents are fully alive to the brilliant future for motor bicycles in general and the MITCHELL in particular.

They let no opportunity go by to gain knowledge themselves or impart their knowledge to others, and they have it to impart. They are making money and have "dead loads" of it in sight.

THE MITCHELL MOTOR BICYCLE IN THE HANDS OF SUCH AGENTS, BACKED BY ITS MAKERS, IS INVINCIBLE.

MITCHELL WINS 3 mile handicap in San Francisco, August 17.

(For details see news columns in this number.)

The Mitchell Agency

BICYCLES,
MOTOR BICYCLES,
AUTOMOBILES.

Means a Profitable Agency

WISCONSIN WHEEL WORKS, Box W, Racine, Wis.

See samples at following General Agencies:—HENRY VAN ARSDALE, 7 & 9 Warren Street, New York City; GEO. S. ATWATER, No. 8 Merri-
mac Street, Boston; MITCHELL, LEWIS & STAYER CO., PORTLAND, ORE.; SMITH & ZIMMER, MINNEAPOLIS, MINN.; H. G. FITLER, 204
North Broad Street, PHILADELPHIA; J. H. ISHAM, 542 Ellicott Square, BUFFALO, N. Y.; RAWLENS IMPLEMENT CO., 200 S. Charles St., BALTI-
MORE; COLUMBUS AUTOMOBILE EXCHANGE, Boston; HARRY GEER, 1017 Pine St., St. Louis; THE BRUNETTECO., SAN JOSE, CAL.,
Coast Agents F. W. M. ROBINSON, 72 Hall St., SPRINGFIELD, MASS.

TO THE TRADE.

UNDER the very transparent guise of being a new and separate company, our competitors are marketing a bastard rim made in Michigan for the openly avowed and sole purpose of putting the independent manufacturers of wood rims out of business.

The **TUCKER RIM**, which is fast becoming the **standard rim** of the world, will not be cheapened, either in price or quality, to meet this competition, however. Realizing that our customers will be compelled to have a rim to meet this competition, we have arranged to market the well known and long established **RASTETTER RIM** in connection with the **Tucker Rim**, and advise our patrons not to be **stampeded** or **taken in** by any schemes or "**big talk**," as we are prepared to meet any prices and to absolutely protect their interests.

We haven't much money, but we've got lots of sand. We know how to make a good rim, and the man don't live who can put us out of business.

Our travelers will see you as soon as possible. In the meantime send in your orders.

TUCKER BICYCLE WOOD WORK COMPANY,
URBANA, OHIO.

TO SECURE PUBLICITY

Newspaperman Gives the Recipe and Speaks his Mind About the Trade.

"I've heard more than one man in the bicycle business express wonder that the daily papers now devote so little space or attention to cycling affairs," remarked an old New York newspaper man who is able to write "must" on his copy and have it respected, "but it really should surprise none.

"There are two or three of us here who because of our love of the bicycle still give space to it regularly, but for all the good that it does our papers we might as well not write a line. When the bicycle people have money to spend they hand out their ads. to all alike. The papers that do not care a rap about bicycles and rarely print anything about them get just as much out of the business as we do; it's the sort of thing that makes a man weary.

"If the bicycle advertisers desire to have the bicycle again given publicity and prominence, the means are in their hands. When they have favors to dispense let them give them to the papers that deserve them—the ones that are printing bicycling matter. When the other papers come around for the business let them be told that it will be given them when they give space to cycling subjects, and, my word for it, they will find the space in short order. It is a method that will never fail of its purpose, and if publicity is desirable—and there is scarcely any doubt about that—all the cycle trade has to do is to pursue the policy, and the number of 'bicycle columns' that will be developed will surprise all concerned and result in publicity that will be worth a good many thousands of dollars to the bicycle interests in general."

Says Japs are all Scorchers.

If accounts are to be believed, most Japanese riders are still in the kindergarten stage. They ride but to scorch, and are never so happy as when at their favorite game.

"First of all, you may (or may not) know that Japan is the scorcher's Paradise—every one rides as hard as he is able, especially along narrow streets and round sharp corners; if he can take his hands off he does so, and if not good enough for this he sways back and fro across the road; also, if compelled by traffic or other reason to go at a moderate pace, he rides side-saddle or with one foot on the fork," remarks a rider now in Japan.

"It is absolutely true that I haven't seen a single Jap ride without scorching or playing the fool. All the machines, I may observe, are American, which is surprising, seeing that locomotives, house fittings, cisterns, etc., are English. Coaster brakes abound, and all machines are modern, so that I was all the more surprised to come on a bare plot of ground at Kioto the other

day and to find three boneshakers being ridden by learners! Not the high machine, but the genuine boneshaker of 1869—wooden rims, spokes, hub, iron tires, solid backbone, vertical forks, etc., absolutely complete in every detail. I don't see any reason for it, but it is an absolute fact."

To Find Better Belts.

The numerous accidents to workmen in establishments where belts are used has recently brought about the stringent application of a law in France, forbidding the removing or replacing of a belt by hand while the machinery is in motion. In order to obviate the waste of time consequent upon the stopping of the machinery an association of French manufacturers has announced an open international competition for the best fixed belt mounted.

The invention should be designed for simple and not for conical pulleys, and must



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

comply with the following conditions: 1, It must be simple, strong and occupy little space, easy to fix and use. 2, Not dangerous in working. 3, Convenient for any speed, width, or position of belt. 4, Able to throw the belt off and on. 5, Sufficiently low price to allow of its wide use.

Competitors are invited to send a full description of their invention, accompanied, if possible, by a model, or at least by satisfactory illustrations, to the President de l'Association des Industries de France centre les Accidents du Travail, No. 3, Rue Lutece, Paris, prior to October 1, 1902.

The Retail Record.

Franklin, Mass.—Frank Dudley will retire from business.

Owego, N. Y.—Cole & Codner; G. L. Cole has sold his interest to W. A. Codner.

Winchendon, Mass.—Frank C. Sherburne, Jr., succeeds W. H. Partridge.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

DICK HOWELL DEAD

The Once World's Champion Passes Away at Flushing—His Varied Career.

Richard Howell, once the most famous racing men in the world, died on Saturday last at Flushing, L. I. He was aged 44, having been born in Wolverhampton, England, March 18, 1858.

While little known to the present generation, Howell, in the day of the high bicycle, was as renowned as was Zimmerman, Michael or any of the champions of later years. He began racing in 1879, and after proving his right to the title abroad and with the mile record to his credit, Howell visited this country in 1884. Professionals were then few in numbers, and, save a defeat by Prince and one or two others, Howell cleaned up this country's best—Prince, Morgan, Eck, Woodside and Neilson, and also established a new world's record of 2:31 2-5 at Springfield, Mass., in 1885.

Full of honors, Howell returned to England, whence he was followed by W. A. Rowe, when the latter turned professional after proving himself easily the best amateur in this country. In the series of match races that followed Howell won, thereby plunging cycling America in gloom, so great was the faith in Rowe's invincibility. Howell soon after went into partial eclipse, from which he emerged in the early '90s, when he was included in the English team that was imported for the Madison Square Garden tournaments. Howell, while he retained some speed, was then plainly no longer the Howell of old, and eked out a precarious existence by barnstorming throughout the country under the wing of Tom Eck.

He afterward dropped out of sight, being next heard of as a cycle repairer at Coney Island. Later he got control of the roadhouse in Flushing in which he died.

Howell was not a man of culture or quiet habits, but in his prime he was a magnificent physical specimen, being 6 feet 1½ inches in height and proportioned accordingly, and he was withal a daredevil rider, and made an imposing appearance on his 59-inch high racer.

Sitting Too High.

Very many of the present day cyclers sit too high to obtain the maximum benefit from their coaster brake mounts. The rider who has to stretch his leg and point his toe to rest on the pedal at the bottom of the stroke does not get the most comfortable position for coasting downhill, although he may not know it. To coast with comfort it is recommended that the peak of the saddle should be behind rather than over the crank hanger, while the stretch should be just long enough to allow of the rider placing the heel or the middle of the foot on the pedal when at its lowest point.

The Week's Exports.

Argentine Republic—163 pkgs. cycle material, \$839.

Antwerp—1 pkg. bicycles, \$20.

Antwerp—1 pkg. bicycle material, \$30.

Aberdeen—1 pkg. bicycle material, \$15.

Amsterdam—2 pkgs. bicycle material, \$25.

British Australia—49 pkgs. bicycles and materials, \$882.

British East Indies—28 pkgs. bicycles and materials, \$343.

British West Indies—3 pkgs. bicycles and materials, \$63.

Christiania—1 case bicycles, \$45.

Copenhagen—2 pkgs. bicycles, \$32; 5 cases bicycle material, \$158.

Cuba—5 cases bicycle materials, \$141.

Dresden—1 case bicycles, \$25.

Dutch West Indies—21 cases bicycles, \$2,306.

Dublin—1 case bicycles, \$70.

Glasgow—3 cases bicycles, \$90; 2 cases bicycle material, \$75.

Genoa—2 cases bicycles, \$75; 12 pkgs. bicycle material, \$1,065.

Hayre—13 pkgs. bicycle material, \$1,065.

Hamburg—1 pkg. bicycles, \$50; 41 pkgs. bicycle material, \$2,108.

Japan—135 pkgs. bicycles and materials, \$2,028; motor cycles, 6 pkgs., \$600.

Liverpool—63 pkgs. bicycles, \$1,240; 2 pkgs. bicycle material, \$62.

London—2 pkgs. bicycles, \$125; 18 pkgs. bicycle material, \$977.

Mexico—9 pkgs. bicycles and material, \$450.

Rotterdam—11 cases bicycle material, \$370.

Vienna—3 pkgs. bicycle material, \$100.

Southampton—74 cases bicycle material, \$3,746.

Tourist Cars on the Nickel Plate Road.

Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fridays. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest ticket agent, or write A. W. Ecclestone, D. D. Agt., 385 Broadway, New York City. ***

There is reason to believe that gears are lowering a trifle. The abnormally high ones have disappeared almost completely, and now the 80s and 90s seem to be losing ground.

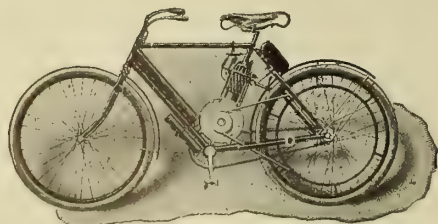
Revising Patent Laws.

The Patent Law Amendment bill is the subject of a timely article in the English Engineer, which says that the government is taking definite steps to carry out the recommendations of the royal commissioners, who published the result of their deliberations so long ago as January, 1901.

The suggestions are two in number, the first being the establishment of some system of inquiry into the validity of inventions for which protection is sought. The second is the adoption of a new system whereby the jurisdiction to grant compulsory licenses is to be invested in the High Court, and not, as heretofore, in the Board of Trade. The proposed inquiry into the validity of a patent, even in the modified form suggested by the bill under notice, marks a new era in the history of English patent law.

As things at present stand, the patent office is compelled to grant a patent for the most futile inventions, wholly regardless of the fact that it has been forestalled a hundred times. The object of the new measure is not to establish a forum in which the validity of every proposed invention as subject matter of letters patent shall be decided, but to give a jurisdiction to the Controller General of Patents, subject to appeal to the law officer, to decide whether in his opinion the invention is covered by any specification filed within the previous fifty years.

FIRST HONORS,
The GOLD MEDAL and a BLUE RIBBON
 IN THE
New York Motor Cycle Club's Economy Test
WERE WON BY THE
AUTO=BI



Experience is the best teacher, and as the first makers of motor bicycles it is quite natural that we should be able to produce the one that "gets there," and does it most economically.

Are you seeking a machine of the sort?

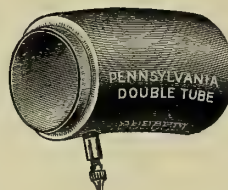
BUFFALO AUTOMOBILE & AUTO-BI CO.,

1192 Niagara Street, BUFFALO, N. Y.

NEW YORK, 29 West 42d Street.

BOSTON, 174 Columbus Avenue.

Jobbers, Be Wise!

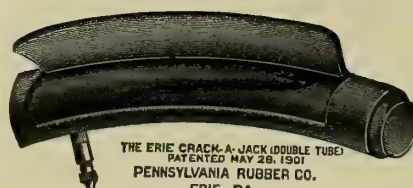


**Handle these
Goods and**

MAKE MONEY.

STAY WITH THE GOLD MEDAL WINNERS.

Write for
our
1902
Price
List.



THE ERIE CRACK-A-JACK (DOUBLE TUBE)
 PATENTED MAY 28, 1901
 PENNSYLVANIA RUBBER CO.
 ERIE, PA.

Don't close
until you
consider
our entire
line.

**PENNSYLVANIA
Rubber Company,**

ERIE, PA.

BRANCHES:

NEW YORK

BUFFALO

CHICAGO

PHILADELPHIA

BOSTON



About Nickled-Steel Alloys.

Some time ago it was announced that Dr. Guillaumey, of Sèvres, had discovered an alloy of nickel and steel which did not expand when heated, nor would it rust or oxidize. Respecting this discovery Dr. Thomas B. Stillman, professor of chemistry and metallurgy at Stevens Institute of Technology, is quoted as saying:

"A short time ago a Pittsburg company claimed to have found an alloy composed of small quantities of tungsten, chromium and molybdenum, 5 per cent of nickel and the rest steel. They submitted a specimen about the size of a 10-cent piece for me for analysis.

"I analyzed the piece, and found that the hardness had been produced by the absence of phosphorus in the steel, and that there was no tungsten, little chromium and about 88 per cent nickel in it. Of course, it did not rust, but it certainly did expand.

"Nickel follows the same laws of expansion by heat that steel does. The coefficient of expansion of steel by heat is .001079 and of nickel .001279. An alloy made of these metals must expand by heat, the nickel showing more expansion than the steel. It is true that non-oxidizable alloys of steel and nickel have been made, but they are entirely too expensive for general use, since the amount of nickel required to prevent oxidization or rusting in an alloy is over 75 per cent, and when nickel sells for 50 cents a pound, while open hearth steel is worth 1½ cents a pound.

"I do not believe that an alloy of nickel and steel will ever be made which will have the properties claimed for that alloy made by Dr. Guillaumey."

Affords "Automatic Rest."

The coaster brake has been the most generally recognized improvement in bicycles and best pleasure-giver since the introduction of the pneumatic tire. In riding over familiar ground the coaster brake will demonstrate more slight down grades that have never before been recognized than even the most expert of riders know. The pleasure of coasting has about it a peculiar charm, and especially when the rider knows his bicycle is under perfect control.

On a level road advantage can be taken of the momentum of the wheel for a little rest, which breaks the monotony of continual pushing at the pedals. In fact, the device affords what has been aptly termed automatic pleasure.

What Makes Racing Expensive.

It has been calculated by an industrious statistician that fifty cents a mile per machine is the real cost in a race. At Manhattan Beach track recently, in travelling twenty-five miles, two tires were worn beyond repair, each one of which cost \$5.50. When it is figured that these machines pace a rider in training twenty to twenty-five miles every day in addition to the regular racing, it gives an idea of the cost of maintaining these machines.

The Sources of Platinum.

The chief source of commercial platinum is Russia, where the productive districts lie along the eastern watershed of the Urals, in the eastern portion of Perm in Kasan, and on the western watershed farther south. A few years ago the greater part of the platinum came from the district of Nijni-Tagilsk, nearly due east of the city of Perm, but now the largest supply is obtained in the Goroblagodat and Bisersk districts, about 130 miles farther north and northeast of the town of Nijni-Tagilsk. From the watershed of the Urals, two small rivers, the Iss and the Veeya, flow eastward and join the Tura River, and the productive platinum ground, about 2,000 sq. miles in area, is found along these three rivers. The platinum is found in gravel in the placers, both in the beds of the streams and above water level. Platinum is reported in a number of other places in the Russian empire.

Small quantities have been found in Canada and the United States, as also in Spain, Borneo, Japan, New South Wales, New Zealand and Tasmania. A few scales of it has been discovered in gold-bearing sands in Austria; occasionally the metal is found in Brittany, France. In Germany, it is reported in the Hartz Mountains, and in Great Britain a few grains have been found in the gold-bearing sands of Wicklow, Ireland, on the island of Jersey, and in the sands of the River Urr, Kirkcudbrightshire, but none of the above sources, except Russia, of course, and possibly the United States, furnishes the metal in commercial quantities.

Claims Goggles are Growing Popular.

Observers are noting a growing fondness among English riders for—of all things—goggles! Just the plain—so plain that they are hideous—goggles which automobilists find almost indispensable on long rides are used.

"These eye protectors with their silken flaps are supremely hideous, but so was the pneumatic tire when it was first introduced, and that compels us to wonder whether we shall ever become so completely accustomed to goggles as we are to air tires," remarks the discoverer.

"Although I had previously observed that some cyclists were wearing goggles, I had accounted for the fact by the supposition that they were motorists who were thus seeking to protect their eyes during their journeys awheel. But just lately I have seen so many cyclists adorned in the same way, who obviously are not motorists, that it seemed to me that cyclists were taking to the use of goggles and were thus learning a lesson from drivers of faster vehicles. In order to confirm this impression, I made a few inquiries round the retail trade, and found that it was really a fact."

Recent Incorporation.

Acto, N. J.—The Pressed Steel Mfg. Co., with \$200,000 capital, to manufacture steel ball bearings, etc. Incorporators—G. L. Rettew, John G. Adams and J. B. Rettew.

IT IS ESTIMATED THAT

97%

OF

Motocycle Troubles

ARE

ELECTRICAL TROUBLES.

It follows that, at least, an elementary knowledge of electricity will go far towards making for the fullest measure of pleasure and satisfaction.

**"The A B C
OF
Electricity"**

will impart this very knowledge.

**108 PAGES; 36 ILLUSTRATIONS.**

The book is entirely non-technical and can be understood by the man who does not know "the first thing" about electricity.

PRICE, 50 CENTS.

FOR SALE BY

THE GOODMAN COMPANY**123-125 Tribune Building,****NEW YORK.**

CARE OF FILES

How it may be Made Save an Item of Expense—Uses for old Files.

One of the greatest outlays in the workshop is that on files, and one of the greatest causes of wasted time is the use of files which have been badly used or rather ill used.

Files are expensive tools, and always require replacement, and it is necessary, if proper economy in the shop is desired, that care should be taken to see that they are properly treated. Filers-up should not be allowed to use new files, especially smooth files, on roughing up work where there is a lot of borax. The smooth file should only be used after every scrap of borax and scale has been removed from the joints of the frame.

Files should be kept in racks below the bench, and not upon it. A good rack is made out of a piece of 3-16-inch stay steel, with its ends turned up and sharpened and driven into the bench from below in such a position that the handles of the files will not project beyond the front edge of the bench.

Files should be kept cleaned by means of file cloth, or, as it is sometimes known, carding cloth, that is, a thick cloth into which has been worked short lengths of fine stiff wire, making a kind of wire brush. This, nailed upon a piece of wood to form a handle, will effectually clean a file which has become pinned with the metal upon which it has been operating.

A method of renewing some of the life of a file is to pickle it in a solution of sulphuric acid and water, about four parts of water to one of the sulphuric acid. The files may be left in this in the open air for a day or so, when it will be found that the acid has attacked the surface and removed much of the metal clinging to it, at the same time improving the cut or bite of the teeth of the file.

Many firms have their files recut at a cost of about half the original cost of the file, and for rough work such recut files often come in very handy, but their life is short as compared with the life of a new file, and many mechanics hold that the recutting is no saving.

Old files should not be thrown away, but should be carefully saved, a shelf or locker being put aside for worn out files. New files should never be given to a workman until he has returned the worn out one. Nothing I have found disappear so rapidly as files in the workshop, and the man in charge of the tool stores should keep a rigid look out and see that files are not indiscriminately distributed among the men without keeping track of the old ones. Old files come in for a variety of jobs, such as making dies, flat drills, scrapers, cutters and a variety of other purposes.

Match Box's Novel Use.

"I am going to throw away my pocket matchbox, and forever after this carry my matches in their original box," was the recently overheard remark of a motocyclist. When asked for reasons he told the following story, which carries with it its own hint to others:

"The last time I was out riding on my motor bicycle I was without the cover to the spark cam—why that was is a different story. Anyway, I took a long ride, and found that some of the dust of the road had caked in my spark controller, causing an occasional misfire. In looking through my tool bag I found that I was without a small strip of emery cloth which I usually carry. I managed to clean off the platinum of my tumbler blade with the end of my screw-driver, but could not get up under the screw point well enough to get off all the caking.

"This left but one thing to do, as I didn't even have a nail file in my knife, and that was to remove the screw. If I had had a box that matches come in I could have torn off the scratching part and used its gritty surface to clean that screw point without removing the screw. That is why I have taken to the habit of carrying my matches in their original package."

Motocycles for Army Use.

An Italian contemporary, *Esercito Italiana*, describes vividly the use of motor cycles and motor cars for the army. The motor cycle is recommended as cheaper and superior in use, not needing so much road space and fuel as the tricycle and small cars, but equally quick and of the same service. A military cyclist on an ordinary machine is done up for the day after having covered thirty to forty miles of rough roads, whereas the motor cyclist remains fresh, and can do three or four times the work, a point of great importance in warfare, when every man is needed.

Every general of a division in the Continental armies has now a light car at command whenever he manœuvres, and these cars have not only done excellent intelligence service, but saved also much horseflesh and avoided many breakdowns and failures. A car can do fifteen to twenty miles an hour if needed, whereas horses cannot do a quarter, not to speak of the continual work of the car and the exhausted condition of man and beast after an hour's continued galloping.

These contemporaneous conditions are being pointed out by those advocating the use of motor bicycles as showing their decided merits for the work to be performed.

"When in doubt stick to articles which have well earned reputations," is advice which many a merchant would profit by using. The dealer who sells goods that have well earned reputations need not be afraid that his own reputation will suffer by so doing.—(Ex.)

SHOULD HE PAY?

Used Dealer's Pump but Inflated his own Tire and now "Kicks"

"Say, Mr. Bicycling World, I've got a kick to make, and as you are handy, I'll register it with you," said the chronic kicker.

"It has to do with the ethics of tire inflation," he went on. "What I want to know is, should a rider have to pay for pumping his tires when he does all the work himself? Blest if I think so, especially when you have to do the pumping or go without it.

"It was this way: My tire was a little soft when I started, and after riding for a couple of hours it got worse and began to bump. I steered for the nearest shop and went in. The proprietor was in the back room making some repair to a customer's wheel. He looked at me, but without interrupting his work. I stood for a few minutes, and then, seeing the big pump nearby, I got it and inflated my tire with it. This done, I went back and asked in a perfunctory sort of way what the charge was.

"All the time I was pumping the man had made no move to assist me. But now he put down his work, came over to the counter and replied that the charge was 5 cents. I paid it and went out.

"Now, I think that was adding insult to injury. If he could not find time to inflate my tire he ought not to have charged for the pump when I did the work. Or, to put it the other way, if he could leave his work to get the nickel he could do it to wait on his customer, myself."

Where Mica Comes From.

According to a report from India, Bengal produces nearly two million pounds of mica per year, about one-half of which is sent away by sea to various parts of the world, the United States, Great Britain and Germany being the largest buyers. The balance is sent into the interior to be manufactured into cheap tinseltware.

Mica may be riven into sheets so fine that one thousand such sheets will only make up a thickness of one inch. Each of these sheets is a perfect insulator of electricity. The bulk of the mica as mined in Bengal does not answer these requirements. In fact, not 10 per cent of the mica brought to the surface has been utilized, and great mountains of waste are to be seen adjacent to all mines.

There is a good demand in this country for this waste. Large quantities are used in the manufacture of micanite, a sort of stuff that looks like linoleum. The scrap sheets are worked through rollers with some kind of binder, and the resultant sheets are used in many forms of electrical work, as they can be cut to any form just as is cardboard. In some forms it has been stated to be even better than asbestos for heat packing.

RACING

A race invented with the idea of making the money chasers ride in order to get pay, was introduced at Vailsburg August 24. There was no purse to be divided among the men at the finish, but there was \$325 to be picked up in the twenty laps that were ridden in less than eleven minutes. The event was arranged as an improvement on the lap race; in fact, the idea of offering intermediate prizes was carried to its logical conclusion, and only intermediate prizes were given. There was \$50 offered for the leader at each five miles, and a little pickup of \$5 for those who led at each of the other laps. There was a dash for the front and the money at every circuit of the track, and an idea of how much of a "killer" the race was may be gleaned from the fact that thirty professionals started and only ten finished. In order to prevent men from going in to use themselves up in getting one \$50 prize and then dropping out, a rule of the track required that every rider who won any of the money for the intermediate miles must be riding at the finish, and must be within 150 yards of the leader. Five teams were declared—Kramer and McFarland, Martin and Beauchamp, M. Bedell and J. Bedell, P. Keegan and Tom Butler, R. De Palma and G. Kuhlke. This resulted in Kramer getting \$200 of the money by winning four of the five single mile prizes. "Bill" Martin was the only one who got more than one of the "five spots" offered for the laps. He got three. The final result follows: Five mile professional race, with prizes of \$50 for leaders each mile, \$5 for each lap between miles, and no place money at the finish; first, second, third and fifth miles won by F. L. Kramer; fourth mile won by E. Armbruster; winners of lap prizes, Martin (three), Burdgett, Fisher, Wilson, Collett, Keegan, Schreiber, Bedell, Sullivan, Beauchamp, Rutz, Butler and Bowler, each one; time, 10:45 1-5. The half mile open amateur proved rather a hollow victory for Hurley. He remained in good position until the backstretch. Here Billington tried to make a steal, but Hurley was after him in a hurry, and beat him to the tape by a length. Schlee was third and Gleason fourth; time, 1:16 1-5. The half mile consolation handicap for professionals was won by Butler after a stirring finish with Sullivan and Stevens. Butler had 25 yards, Sullivan 40 yards and Stevens 25 yards. Rutz (30 yards) was fourth; time, 1:25 1-5. The two mile amateur handicap was won by H. D. Hopper (60 yards), H. Welsing (70 yards) second, J. Zanes (60 yards) third, S. A. Shirley (210 yards) fourth; time, 4:16. Five thousand spectators enjoyed the races.

"Bill" Martin has finally won a race. It was a consolation, but it was the first he has won in this country. Since his arrival here, two months ago, his riding has been a decided contrast to the brilliant form he displayed in Australia. The race was the

mile consolation, at Vailsburg, August 23. Schreiber was second, J. Newkirk third, F. Krebs fourth; time, 2:10 1-5. Taylor did not appear, and with him out of the quarter mile championship the race was won in easy fashion by Kramer. The final left only Kramer, Kimble, Collett and Stevens to fight it out. Kramer took the lead and kept it all the way, and they finished in the order named; time, 1:30 2-5. The five mile professional handicap was an exciting event. Kramer and McFarland started from scratch and declared for team work. Kramer pulled McFarland for three miles, and brought him up to the bunch in a way that provoked cheers. Then Kramer quit. There were four other declared teams in the race. In the fourth mile all the riders were bunched. McFarland won by a couple of lengths, but second and third places were won by inches. J. F. Fisher (100 yards) second, J. B. Bowler (150 yards) third, M. Bedell (250 yards) fourth; time, 10:34 2-5. Hurley took the one mile open amateur handily. Billington, Zanes and Dove fell in the final heat. Henry Capper was second, Gleason third; time, 2:51 2-5. George Gleason won the two mile amateur handicap from scratch, riding in great form. E. Forrest (90 yards) second, Schlee (30 yards) third, G. Zanes (60 yards) fourth; time, 4:24 3-5. There were 4,000 persons present.

Kramer won the one-third of a mile National Circuit championship race at Asbury Park August 22. Two thousand spectators witnessed the races. Kramer barely escaped being beaten out for a place in the final heat, winning over Kimbel in the semi-finals by scarcely more than an inch. He won the final with space to spare, with Lawson and Stevens fighting it out for second place. Lawson finished second, Stevens third and Fisher fourth; time, 0:42 2-5. Taylor was to have been a contestant, but did not appear. A feature of the meet was the exhibition mile ridden by Arthur A. Zimmerman. He was paced by a motor bicycle, and covered the mile in 1:49. He received an ovation from the spectators. There was a bad spill in the two-thirds mile professional consolation, caused by Hadfield fouling John King. The latter went down, and five riders behind him, including Bald and Fenn. King and Bald were bruised quite badly. Hadfield was disqualified. Krebs won, Bedell second and Bowler third; time, 1:32. The five mile handicap was captured by M. Bedell (250 yards), with Beauchamp (25 yards) a good second, and Martin (150 yards) third, Eaton (250 yards) fourth, Collett (50 yards) fifth; time, 12:30. Louis Bennett won both the half mile open and the one mile amateur handicap, the former in 0:42 2-5, with Losee second and Hooper third. And the handicap from the 60 yard mark in 2:14 1-5, Kiendl (120 yards) second, Rushton (60 yards) third.

Geo Leander won two straight ten-mile paced heats from Gus Lawson at Atlantic

City on August 21. Time of first heat, 15:36 2-5; second, 16:11 1-5. Zimmerman and Sinclair defeated Thompson and Boake in a one-mile motor tandem race, 3/4 horsepower machines; time, 1:28. At the same place, on August 23, Joe Nelson defeated George Leander in two straight ten-mile paced heats. Nelson used his 10 horsepower motor, and Leander followed a 4 horsepower machine. Leander lost his pace several times. The time for the first heat was 14:42 2-5, and for the second, 15:21. Thompson and Boake won two straight one-mile motor tandem races against Zimmerman and Sinclair. The five-mile paced heat race between Leander and Rutz, at the same track on August 25, was won by the former. The first heat was won by Leander in 7:51 2-5; second heat by Rutz in 8:09 2-5; third heat by Leander in 8:06 2-5. Rutz lost his pace at the beginning of the last lap and sprinted to the tape, losing by only one yard. The finish was exciting. Zimmerman and Sinclair defeated Thompson and Boake in a one-mile motor tandem race in 1:24 2-5. The second heat was won by the latter in 1:31 1-5.

Taylor was the favorite with a big crowd at New Haven August 26 to beat Kramer out in the half-mile national championship event. Taylor, however, was shut out of the race in the semi-finals. He filed a protest with the referee, stating that Fisher and Lawson pocketed him, but the referee decided that he ran into the pocket and disallowed his protest. In the final Kramer had no trouble in winning, beating out Fisher by a wheel's length, the latter coming in ahead of Lawson. Kimble was fourth. The time was one minute. Frank Beauchamp, of Australia, sprung a surprise in the ten-mile professional open by stealing a lap in the fifth mile and never being caught. McFarland took second place, with George Collett third and Wilson fourth. The distance was ridden in 23:00 2-5. Schreiber took the one-mile professional consolation race in a hot sprint from Krebs. Bedell and Martin followed in the order named. The time was 2:26 2-5. The final in the one-mile open amateur was won by Ed. Collett, J. P. Linley second; C. L. Hollister third; time, 2:18. Walter Haggerty, with 15 yards, won the half-mile amateur handicap; Ed. Collette, 10 yards, second; W. Miner, 75 yards, third; time, 58 seconds.

At Hartford on August 20 E. F. Root, of Boston, reduced the world's amateur record for five miles, in competition, to 10:40. The previous record was made on July 1 at Vailsburg by Hurley. The race was exciting throughout, the riders receiving fresh pace at the end of every half mile. E. Stander was second, Charles Schlee third and J. W. Lindley fourth. The final heat of the quarter-mile national championship, which was postponed from Monday night, was contested by Teddy Billington, G. Diggs and E. F. Root. Hurley failed to appear, being ill. The heat was fast and hot;

contested, Billington winning in 0:30 1-5; Diggs, second; Root, third.

The amateur motor bicycle race was won by D. B. Roberts; N. P. Barnard, second; time for the three miles, 5:06 2-5. Oscar Hedstrom rode a mile exhibition on an Indian motor bicycle in 1:18.

Taylor did not compete in the half-mile circuit championship race at Philadelphia on August 20, being excused on account of the illness of his wife. Kramer won the final in 1:02 by a few feet from Lawson, Kimble third and Fenn fourth. In the final heat of the one-mile professional handicap the scratch men did not have a chance, and the money went to the long markers. Franz Krebs, with a handicap of 120 yards, captured first honors, beating G. P. Jacobson, a sixty-yard marker. Tommy Hunter, from the 120 yard mark, was third, and Jed Newkirk fourth; time, 1:52 3-5. Floyd McFarland took first place in the one-mile professional consolation race, outsprinting Jimmy Bowler on the last lap. George Schrieber was third and Bill Martin fourth. MacFarland rode the distance in 2:06.

Hurley took the amateur championship of America at New Haven August 22 by winning the half mile championship race and securing second place in the two mile championship. This makes the standing 19 points for Hurley and 18 for Root. The final of the half mile championship was won by Hurley, Billington second, Gleason third, Dove fourth; time, 1:11 3-5. In the two mile race Root demonstrated his superiority after a great contest, crossing the finish line first, with Hurley just behind him. The riders fought it out for all that was in them. Stander was third and Billington fourth; time, 5:18 3-5. The fifteen mile paced race for amateurs was won by Sam Sulkin in 25:44 1-5. F. Dalke's wheel gave out in the middle of the race.

About 1,500 people saw the exciting motor bicycle racing which formed the feature of the meet at Milwaukee August 22. The only other events of importance were the one-mile open and the two-mile handicap, both of which were won by William Blum, the Chicago rider. His time for the former was 2:20 and the latter 4:51 3-5.

The three-mile motor bicycle race was won by A. J. Manday in 7:02; O. F. Weber second. In the two-mile race Monday again finished first, with F. Lirbel second; time, 4:26½. Woodie Headspath, a colored rider from Dayton, gave a five-mile exhibition on a motor bicycle, doing the distance in 10:54 2-5. G. V. Rogers, of Racine, rode a half-mile exhibition on motor bicycle in 0:57.

Taylor and Kramer rode a dead heat in the final of the one-third mile national championship race at Providence August 26. Kramer protested the decision, claiming that there was team work between Taylor and Bowler. Iver Lawson took third and Bowler fourth. The distance in the final was made in 38

seconds. The one-mile professional handicap was won by J. Moran, who made a runaway in the final, with Jacobson second, Lawson third, Collett fourth, Bedell fifth. Neither Kramer nor Taylor entered this event. Patsy Keegan won the one-mile consolation. Hurley won the mile amateur handicap and also the five-mile amateur lap race.

Hurley won the one-third and mile amateur championships at Springfield on August 21. In the final of the third of a mile event Hurley took the lead at the start, and jumped at the far turn. E. F. Root got the champion's wheel, and, though Billington tried hard, he was unable to get past Root, who finished several feet behind Hurley. Glasson was coming fast, but the best he could get was fourth. Time, 0:40 2-5. Hurley and Root again had everything their own way in the mile race, finishing in one, two order. M. T. Dove landed third place by a few feet from Collett. Time, 2:17 1-5.

The race between Walthour and Caldwell which was to have taken place at Hartford, August 13, was declared off. Walthour's manager signed a contract for a race with Caldwell behind four-horse power motors. When Walthour appeared with his nine-horse power motor Caldwell refused to permit him to use it, although Walthour claimed that his smaller motor was broken. Manager Elmer, of the Velodrome track, at once brought suit against Walthour and his manager, and attached the big motor in a suit for breach of contract, claiming \$3,000 damages.

At Valley Stream, August 24, Charles Mock created a record of 6 hours 8 minutes and 35 seconds for the 100-mile unpaced road record. The course was from Valley Stream to Freeport to Hempstead, to Springfield, via Lynbrook, to the starting point, and was conducted under the official supervision of the Century Road Club. The first twenty-five miles were covered in 1 hour and 13 minutes. Fifty miles were done in 2 hours and 49 minutes, 75 miles in 4 hours and 25 minutes.

In a twenty-five mile paced race at Revere, Mass., August 23, Walthour defeated Elkes and established a new world's record from the twenty-first to the twenty-fifth mile. Walthour led at the start, and held the lead throughout. The times: Five miles, 7:14; ten miles, 14:26 2-5; fifteen miles, 21:40; twenty miles, 27:59; twenty-five miles, 35:11 1-5. The precious record for twenty-five miles was 35:19 3-5. Walthour finished 100 yards in the lead.

Motor bicycles will play a conspicuous part at the National Circuit meet at Manhattan Beach on Saturday. Three events are carded, a two mile handicap, a three cornered pursuit race and a five mile team race between the New York Motor Cycle Club and the Alpha Motor Cycle Club, of Brooklyn, between which there exists the good natured rivalry common in the "good old days."

At the speed trials for motorcycles held at Deauville, France, August 26, Rigal, on a motor tricycle of eight horse power, covered the kilometre, or sixty-two hundredths of a mile, in 28 4-5 seconds, which is at the rate of 78 miles an hour. Barre, on a motor bicycle, covered the distance in 43 1-5 seconds, but failed to lower the record established by Williams by 2 4-5 seconds.

In a twenty-five mile paced challenge race for \$500 Albert Champion defeated Hugh McLean by two miles at Providence on August 20. Up to the eighth mile it was an exciting race, then McLean's pace went wrong, and before he could catch up with his second motor Champion had a lead of two laps, which he steadily increased. Champion's time was 35:15 3-5.

Five thousand people at Atlanta, August 26, saw Walthour defeat Munroe in two straight five-mile heats, paced. Munroe was easily distanced in the first heat by three and a half laps, Walthour finishing in 7:47. In the second heat Walthour won by three wheel lengths, going the distance in 8:04.

The three mile motor bicycle handicap which formed a feature of the meet promoted by the San Francisco Cycle Board of Trade, August 17, was won easily by Charles L. Hill on a Mitchell, from scratch; time, 5:52. There were seven starters, the limit being 660 yards.

Howard Freeman defeated Joe Nelson in a ten-mile paced heat race at Baltimore on August 21. Nelson's pace went wrong in the second heat, and Freeman won by more than half a mile. Freeman's time was 13:54 and 13:57 2-5.

According to cabled reports, in a test held at London, England, August 26 A. A. Chase lowered the world's bicycle record for a mile to 1 minute 20 4-5 seconds.

Where Short Cranks Rule.

The use of motors of great power permits paced racing followers to shorten the rear pair of cranks on tandem machines, and today it is the exception rather than the rule for cranks exceeding three or four inches in length to be used. Of course, the rider cannot get much leverage on them, but that is where the more powerful motors come in.

This shortening of the cranks serves two purposes. It permits the rear man to give almost his entire attention to the running of the machine and the watching of the paced rider. Then the way the cranks are shortened makes it possible to protest the paced man a little more effectually. The cranks are bent outwardly, and this, of course, brings the rear rider's feet farther apart. In this way his legs provide more protection from the wind than would be the case if they were closer together.

In the case of Walthour's big pacing machine the rear cranks are geared up tremendously, and the rider's feet move so slowly that they seem to be almost stationary.

HIS YOUTH RENEWED

**Motor Bicycle Regenerates Corson who now
Inquires About the Other "Old Fellows"**

Editor Bicycling World:

Twenty years ago I used to look forward to the weekly visits of the Bicycling World with as much pleasure as one would anticipate to sit down to a good meal when hungry! As some of your staff know, I am one of the "old vets" in cycling. I am sure no one had more pleasure with the wheel in years past than I had. It brought me into contact with many a good fellow, and how I would like to meet them all again!

One of the objects I have in writing this letter is to inform my old cycling friends that I am now using a motor bicycle, and find the enjoyment far in excess of what I used to have with the bicycle in my younger days. It is so much like flying, or as I have always thought and dreamed about flying, it makes me feel young again. Just think of skimming over the roads at a twenty-mile an hour pace for as many hours as you wish to ride without any tiring exertion! Why, it is great! If I could only impress the minds of all old time lovers of the wheel with the amount of pleasure there is to be had in simply one day's outing on a good working motor bicycle, all would have them, if they had to sell the last cow to get the price.

For the last three years I have not used the bicycle much. To see the drop it has taken, in price and representation, makes me feel that an old friend has come into disrepute. The motor bicycle is the coming thing, and the sooner old lovers of the wheel get into line the sooner their oldtime spirits will be revived.

I have been reading the Bicycling World

for the last six months, as I used to do in years gone by, and it seems to me, by the absence of letters such as we used to see in its columns, that not many "old timers," those who were wheelmen in the true sense of the word, support the journal as they used to do. I would like to have this letter replied to by all of my old friends and those who knew of me in years past as a "Star" crank, as a test to know how much interest there is among the "old vets."

Will some one who knows give me the best route for a motor bicycle trip from Boston to Milwaukee, Wis.? I am going to try to make this ride this fall. Would like to know distances from town to town. Thanking any in advance who may favor me with information, I am, yours in love with motor cycling,

E. H. CORSON.

100 Boylston street, Boston, Mass., August 21, 1902.

Motorcycle Taxation in England.

Motor cyclists are sadly persecuted by an unkind government in England. It has been ingeniously demonstrated that a motor bicycle was a locomotive, or something else within the "act," which rightly should be taxed. Hence the English motor cyclist pays \$3.75 per annum to support the empire. This, though a nuisance, is endurable. But his patience bids fair to be exhausted by the latest efforts of the revenue authorities. Long since they held that a trailer was an attachment which required another fee, and consequently every motor cyclist did not go in for such a vehicle. Some contented themselves with buying a tow rod, which on occasion could be connected with another bicycle.

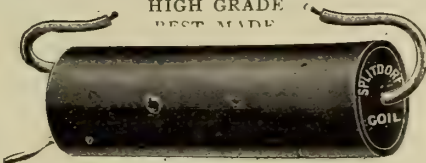
Now the indefatigable minions of the revenue have decided that a \$3.75 license must be taken out on the tow rod also! It would seem as if the motor bicycle in England is being marked down for unfair persecution. In a new industry, such as motoring, it is a stupid proceeding to overburden it with taxation from the beginning.

Interested in automobiles, motorcycles, or launches? Then you are surely entitled to our booklet on spark plugs, batteries, coils, and other electrical sundries for the gasoline motor. We allow liberal discount to dealers.

LIBERTY ELECTRICAL SUPPLY CO., 136 Liberty St., N. Y.

SPLITDORF SPARK COILS.

HIGH GRADE
BEST MADE



C. F. SPLITDORF, 17-27 Vandewater St., New York

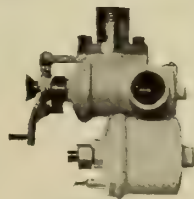


Dyke's Float Feed Carburettor,
(Suitable for engines 4 to 40 horse power.)

Dyke's Bike Motor Vaporizer,

AND
**BIKE
MOTOR
PARTS.**

Get our New Catalog.
500 Illustrations.



DYKE CARBURETTOR.

A. L. DYKE, 1402 Pine St., ST. LOUIS, MO.



DE LONG Motocycles

ALWAYS GIVE SATISFACTION.

There are no tanks or
bags attached to it.

FULLY PROTECTED BY PATENTS.



PRICE \$200.

INDUSTRIAL MACHINE CO.

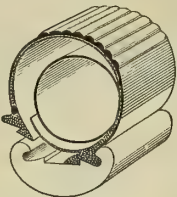
SYRACUSE, N. Y.



G & J TIRES

MADE FOR THOSE WHO WANT THE BEST.

They are detachable, double tube; are made from the best materials; ride easiest and wear longest. Anyone can repair them anywhere.



Catalogs and Prices on Request.

G & J TIRE CO.

INDIANAPOLIS, U. S. A.

Makers of G & J Tires for Bicycles, Motor Bicycles, Automobiles and Driving Wagons.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.

Depots: 210 Lake St., Chicago.

431 Broome St., New York

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

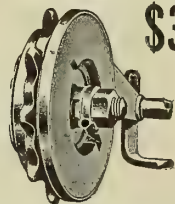
Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

FOR SALE—A 1 1/2 H. P. 230 volts Electric
Motor. Good condition \$60. H. M. P., care
Bicycling World.

FOR SALE—Two motor bicycle bargains. One
Auto-Bi, one Marsh. Both in original crates.
D. A., care Bicycling World.



\$3.00 Coaster Brake

FITS ANY HUB.

Screws on in place of the
usual sprocket. Anyone can
apply it. For free booklet and
particulars, address

Canfield Brake Co., Corning, N. Y.

The Only Tires Fit For
Motor Bicycles—

GOODYEAR DETACHABLES

GOODYEAR TIRE & RUBBER CO., AKRON, OHIO

ALL ROADS ARE EASY WHEN THE



STAR BALL RETAINER

IS USED.

With millions in daily use, it has stood the test for
more than five years, and is adaptable to ball bearings of
any kind.

If you are users of ball bearings we would be pleased to hear
from you and mail you our catalog with the latest information,
which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.

WANTED.

TO BUY JOB LOTS OF

Bicycles, Tires, Sundries and Fittings.

WRITE US WHAT YOU HAVE TO SELL.

E. P. BLAKE CO., 57 Sudbury St., Boston, Mass.

You all know what the diamond stands for among
precious stones. You can't well afford
not to know that

D-I-A-M-O-N-D • T-I-R-E-S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

The 1902 BRECKENRIDGE GAS LAMP

—AND—

The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY

THE NATIONAL CEMENT & RUBBER MFG COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

REGAL BICYCLES.

STEARNS BICYCLE AGENCY,

General Distributors,

SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

The Week's Patents.

707.122. Device for coupling two bicycles. John Kynaston, Liverpool, England. Filed Mar. 20, 1902. Serial No. 99,171. (No model.)

Claim.—In combination the plates 1 attached to the front fork crown, the guide rods 5 forming with said plates a parallel steering movement, the yoke B hinged to brackets 6 clipped on the handlebar stems, the strut C socketed in footsteps on the rear axles, and the stays D hooked in eye washers on the rear axles and attached by the tightening bolts and nuts 18, 20, to the clips 17 attached to the seat pillars 16, forming a coupling for two bicycles, as described.

707.169. Spring tire for vehicle wheels. Henry C. Shearman, Providence, R. I. Filed Aug. 5, 1896. Serial No. 601,746. (No model.)

Claim.—1. In combination, a wheel rim having one central or two parallel grooves along its bed; a depression or well sunk below the surface of said bed or rim with an opening passing through the center of said depression; a tubular tire or pneumatic tube cover, and a boxing, occupying said depression or well in said rim, having a perpendicular shaft passing through said opening, said shaft having a bevel gear head gearing with two bevel gear headed screws, threaded alike, passing through opposite sides of boxing for the purpose of closing the telescoping ends of the tire or pneumatic tube cover with which ends said screws engage, substantially as described.

707.262. Cushion frame for bicycles or like vehicles. James H. Sager and George D. Green, Rochester, N. Y. Filed January 18, 1902. Serial No. 90,286. (No model.)

Claim.—1. The combination of a rigid front section; a rear wheel fork flexibly connected therewith at the crankhanger; tubular rear braces flexibly connected with said fork; a slot in each of said braces at its upper end; a spring within each of said braces; a seat for the bottom of each of said springs; a crossbar flexibly connected with the front frame and passing through said slots; a block within each of said braces resting on the spring in the brace and secured to said bar and free to slide within said brace; and a stop in each brace above the block.

707.310. Bicycle lock. Joyce C. Fisher, Mussoorie, India. Filed Apr. 5, 1902. Serial No. 101,577. (No model.)

Claim.—In a bicycle, the combination with the head or socket and the steering post therein, of a transversely arranged disk, at the upper end of said socket, a second disk carried by the post adjacent to said first

named disk, and a locking bolt slidingly supported, said bolt passing through an opening in the first disk and engaging a recess in the second disk, substantially as described.

707.359. Changeable gear for bicycles. Peter J. Scharbach, Pe Ell, Wash. Filed Jan. 3, 1902. Serial No. 88,346. (No model.)

Claim.—1. The combination is a changeable gear for cycles and with the rear wheel thereof having a gear disk provided with a plurality of gears thereon, a driving shaft, a plurality of gears supported on said shaft and meshing with the gears carried by the rear wheel, gear clutches, clutch levers, and triggers for operating said clutch levers, said triggers arranged to be thrown into inactive position, substantially as described.

707.378. Tire for vehicle wheels. Edouard Belledin-Gras and Frederick Schaublin de Mondran, Paris, France. Filed May 10, 1902. Serial No. 106,805. (No model.)

Claim.—1. An elastic tire for vehicle wheels, comprising superposed flat springs, a tread surface with which such springs are connected at their periphery, said springs being curved to follow the inner profile of the mass constituting the tread, a series of central rings, one ring for each set of superposed springs with their respective central rings substantially as described.

707.480. Bicycle. William N. Whitely, Springfield, Ohio. Filed Jan. 13, 1897. Serial No. 610,035. (No model.)

Claim.—1. A barrel or hub of a vehicle bearing, having a straight internal screw threaded portion, and an enlarged plain tapered portion at the end, in combination with a ball cup screwed into said screw threaded portion, having an enlarged plain tapered end fitting the taper of said barrel or hub, for the purpose of securely connecting said ball cup to said barrel or hub, substantially as specified.

OILERS.**"PERFECT"**

25c.

"CEM"

5c.

"LEADER"

10c.

"CROWN"

5c.

"STAR"

10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs., 240-2 W. 23d St., N. Y.

There's No Fun

in being pounded by every rough stretch of road or every street or car crossing, although many cyclists appear to make themselves believe there is.

They are the people who have never tried a

CUSHION FRAME

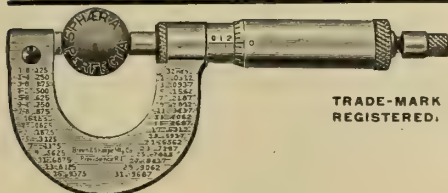
and hence cannot know what cycling comfort really is.

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.



TRADE-MARK
REGISTERED.

STEEL BALLS

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue.

CHICAGO, ILL.

"MOTOCYCLES AND HOW TO MANAGE THEM"

REVISED EDITION

BOUND IN CLOTH

The only Book of the Sort in Existence

CONTAINS A MINE OF VALUABLE
INFORMATION

PRICE, ONE DOLLAR

THE GOODMAN COMPANY

123-125 Tribune Building, - New York City

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

*Electric Lighted—Chicago,
St. Paul and Minneapolis*

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

*Fast time to Marquette
and Copper Country*

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith's St., Pittsburgh
388 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.

THE BICYCLING WORLD

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect June 15, 1902

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	3.15 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars
running through to Chicago.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines. A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

**St. Louis, St. Paul,
Minneapolis**

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.



The Authority of the Cycle World

RELIABLE NEWS

ON ALL CYCLING EVENTS

Interesting & Comprehensive.

ADVICE TO RIDERS.

Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Through all Bookshops and Newsagents or from the
Publishers

ILIFFE & SONS Limited.

3, St. Bride Street, London, E.C.

402 HARTFORD STREET, COVENTRY

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, September 4, 1902.

No. 23

A. B. C. AFFAIRS COME TO A CLIMAX

Receivership Applied For and President Coleman and Col. Pope Among Those Named by the Court—American Cycle Mfg. Company and Other Subsidiary Companies Not Affected—"If Any Creditors Are Uneasy, Their Money is Ready for Them," says Coleman—Reorganization Now to be Effectuated.

The "something" which has been doing in the affairs of the American Bicycle Company for the past two months came to a climax on Saturday. While the violent throbbing of the company's securities in Wall street last week indicated approaching developments, the climax was more sensational than any one had even dared imagine. It took the form of an application for the appointment of a receivership. The application was made to Judge Kirkpatrick in the United States Circuit Court at Newark, N. J., who promptly named R. Lindsay Coleman, Colonel Albert A. Pope and ex-Judge J. A. Miller of Newark as the receivers. The reason given was the inability of the company to pay the interest due on its 5 per cent debenture bonds due September 1, amounting to about \$225,000.

Although action was taken on Saturday following a meeting of the directors on that day, the news was not published until Tuesday, and even then it was not known that the receivers had been appointed; it was spoken of as a probability of the immediate future.

On that day President Coleman gave out the following statement:

"Interest on this company's debenture bonds, due this day, will not be paid at this time.

"Proceedings have been instituted looking to the appointment of a temporary receiver, or receivers, in the interest of bond and stock holders, and a plan of reorganization will be submitted at an early date for their approval.

"The moving reason for this course is that the company is, and has been since its organization, hampered by lack of working capital; and it is confidently expected that the proposed reorganization will furnish the necessary funds for the proper conduct of its business.

"The company is perfectly solvent, and undoubtedly has an assured future. It controls about 70 per cent of the bicycle output, an increasing and profitable automobile business (in electric, gasoline and steam vehicles), and a growing and promising trade in storage batteries, for all of which it is exceptionally well equipped.

"Radical economies have been effected in management and operation; and all old and carried over bicycle merchandise disposed of. The company has adjusted itself to new trade conditions wherein the bicycle has become a staple commodity and the demand a constant and measurable quantity. With the contemplated increase of working capital its success is not in doubt.

"The American Bicycle Company is now a holding company of the stocks of American Cycle Manufacturing Co., International Motor Car Co., Federal Manufacturing Co. and National Battery Company, and others.

"None of these four subsidiary companies will be affected by the fact that the parent company has been placed in the hands of a receiver. All are in good condition, and what assistance they need will be rendered by the receivers of the American Bicycle Company or the bondholders in interest.

"There is no occasion for alarm upon the

part of any creditors of the above named constituent companies.

"It should be stated that those most largely interested in the company's securities are working in entire accord and harmony upon the lines indicated."

Later in an interview with the Bicycling World, Mr. Coleman stated that the application for the receivership was deemed best for the protection of all concerned. It would mean, he stated, a practical reorganization of the American Bicycle Company. He also made even more specific his statement that neither the American Cycle Manufacturing Company, the Federal Manufacturing Company nor any of the other subsidiary companies would be affected by the proceedings.

"If any of their creditors feel the least fearful," he said, "they need but take action to find that the money to meet their claims is ready for them. That contingency was well provided for."

Mr. Coleman said further that his policy had shaped for a quiet reorganization of the corporation, the separation of the bicycle, the automobile and other interests into individual companies being evidence of that policy. Before plans had fully matured it became evident that other interests were seeking to secure control by the free purchase of securities and this changed the aspect of affairs and precipitated matters.

At an early date, he added, a meeting of the bondholders of the company will be held to outline a course of future action.

The general unloading of A. B. C. securities which marked last week's transactions

continued on Friday and on Tuesday, when the market opened after the Labor holiday.

On Friday, August 29, 14,000 shares of American Bicycle common changed hands from $3\frac{1}{2}$ to 5, and 2,000 bonds from 60 to $62\frac{1}{2}$.

On Tuesday, September 2, 15,100 shares of common stock changed hands from $3\frac{1}{4}$ to $1\frac{3}{4}$, and 3,000 bonds at 57.

On Wednesday, September 3, 6,100 shares of common changed hands from $2\frac{3}{4}$ to $1\frac{3}{4}$; 100 preferred at 16, and \$26,000 in bonds from $56\frac{3}{4}$ to 60.

It is generally understood that the sales were made by what have been termed the "Pope interests," which purchased the securities at the time control of the A. B. C. was sought. One story has it that Colonel Pope and his colleagues disagreed on certain points at the eleventh hour and the "unloading" followed.

In the statement of the financial condition of the American Bicycle Co., filed at the United States Circuit Court, at Trenton, N. J., on September 3, the following is of interest:

"Among the debts of the company are: Interest on debentures, due September 1, \$225,000; Baring, Magoun & Co., \$150,000; National Battery Co., \$5,000; F. S. Smithers & Co., \$58,073.68; Federal Mfg. Co., \$50,000. To meet the obligations, it is alleged, the company has in cash or available assets only \$20,000. It is alleged that the company has no assets from which cash can be realized in time to avert the company's default upon its obligations. In addition to the foregoing liabilities, the company is liable in the sum of \$9,500,000 principal on a series of debenture bonds."

The application for the appointment of receivers was based upon affidavits made by Elliott Mason and Emma B. Stimson, who allege that the company is insolvent. They allege that for two years prior to January 1, 1902, the company was engaged in the manufacture and sale of bicycles, automobiles, etc., but on January 1 it became a mere security holding company, having transferred its operations and assets to corporations that have outstanding capital stock that is held or owned by the company.

It is set forth that the assets of the company include \$8,000,000, par value, of the capital stock of the American Cycle Mfg. Co., which stock has an actual value of \$4,000,000; stock in the International Motor Car Co., par value \$2,000,000, actual value \$800,000; stock of the Federal Mfg. Co., par value \$3,209,000, actual value \$2,000,000; stock of the National Battery Co., par value \$215,000, actual value \$50,000. It also has \$75,000 of stock of the Barwest Coaster Brake Co., and \$34,300 of stock of the Auto Street Sweeper Co., the actual value of which is placed at "merely nominal."

Other holdings include \$146,500, par value, of the stock of the American Wood Rim Co., the actual value of which is alleged to be \$125,000; 500 \$1,000 debenture bonds of

RETURNS FOR HIS LABOR

An old Crock Exchanged for a new Bicycle by the Turning of Pedals.

William Moseman, of Brooklyn, has a new bicycle. If appearances count he needed it and needed it badly. Moseman did not, however, buy the bicycle—he won it and won it in glorious fashion.

The bicycle was the first of forty prizes in the 25 miles Cycle Path Handicap run in Brooklyn on Labor Day, and which Moseman, a 6-minute man, won in a driving finish in 1:08:16 3-5 with a pack in full cry at his heels. The machine he rode was a disreputable looking crock. It had some name and fame eight or ten years ago, and Moseman's particular mount was purchased and saw its best days about that time. It will be understood, therefore, why his prize should prove unusually welcome.

The race reflected great credit on the Associated Cycling Clubs of Long Island, and the man in immediate charge, George W. Shannon. It was well nigh flawless. It was started promptly and without accident and ended as promptly and without hitch or kick and with two magnificent finishes on a magnificent road under a magnificent sky. It was the fourth of its kind and the best of the four, and is now fit to rank as the greatest road race in America—the "Cycling Derby," if you are pleased to make use of a much abused term. Nowhere else is there a race run under such conditions—under the practical sanction of the city government, which closes the road for two hours, erects a grandstand and provides scores of police afoot and ahorse and acycle, the police commanded by a gold braided captain who was full of ill will and dyspepsia, and who looked it.

The start is made and twenty odd miles ridden on the embowered and matchless Coney Island cycle paths which skirt either side of the marble-like 70 foot Ocean Boulevard. The racers leave the path for the Boulevard about the twenty-second mile and "fight it out to the finish" on that expanse. The road is almost as straight as an arrow, and a mile away from the tape even the naked eye can see the kaleidoscopic shifts of position, and every play in the rush to victory between the police picketed and living lane of perhaps 20,000 craning spectators. Hills, of course, are lacking, but in locale, in accessibility, in arrangement, in interest there is now no road race that compares with this Cycle Path Handicap. It is easily the "blue ribbon" event.

One hundred and seven men entered for Monday's race, and nearly all of them started. The limit was six minutes. There were eight men on that mark and nine on scratch, among the latter A. H. Taylor, an Englishman who claimed a 25 mile record of 57 minutes, and who was soon lost in the shuffle.

The race was run in three laps of 8 1-3

miles each. The men bunched as usual and throughout Moseman, one of the limit men, was prominent in the leading bunch. Ten men made up this crowd and they hung together until the last quarter, when they broke all over the wide road and sprinted for the tape, Moseman a mite of a fellow, and the smallest man in the scramble, reaching it first by a scant length.

Five of the scratch men also remained together throughout and at the 16th mile were less than a mile behind the leaders, and it seemed as if they might win. After making the turn and facing the wind, however, they eased up and threw away their opportunity. But they made a rare dust-up for home. They fought every foot of the way but Edwin Forrest, the Kings County crack, who drew the lead, could not be headed despite the terrible effort of Charles Schlee, of Newark, N. J., and the winner of the Irvington-Millburn, won by a length. Time, 1:04:29, which accounts for the time prize.

The forty prize winners, their handicaps and times were:

Name.	Hdcp.	Net time.
	h. m.	h. m. s.
1—William Moseman, Brooklyn.....	6 00	1 8 16%
2—A. Winkins, New York.....	5 15	1 7 30%
3—Rudolph Stober, Brooklyn.....	5 30	1 7 46%
4—John Daley, Howard Wh.....	4 45	1 7 14%
5—Albert Brown, National A. C.....	4 30	1 6 46%
6—H. P. Cranston, 47th R. A. A.....	5 15	1 7 31%
7—Fred. Miller, Jersey City.....	5 30	1 7 46%
8—T. B. De Soto, Brooklyn.....	6 00	1 8 18%
9—W. A. Mead, N. G. N. Y.....	6 00	1 8 19%
10—O. E. Mosler, New York.....	6 00	1 8 21%
11—Edwin Forrest, K. C. W.....	Scratch	1 4 29
12—Charles Schlee, Newark.....	Scratch	1 4 29%
13—A. L. Cahn, Prospect Wh.....	Scratch	1 4 29%
14—H. L. Lind, Brooklyn.....	Scratch	1 4 29%
15—Gus Perdeu, Howard Wh.....	Scratch	1 4 29%
16—W. B. Ferguson, K. C. W.....	2 00	1 6 30
17—J. W. Parsons, Brookdale, N. J.....	4 30	1 9 0%
18—C. Widman, Monitor C. C.....	4 30	1 9 0%
19—Louis Merino, C. R. C. A.....	4 00	1 8 30%
20—G. Holzhauer, Prospect Wh.....	2 00	1 6 31
21—Joe Folger, National A. C.....	2 30	1 7 1
22—E. Hollander, W. Hoboken.....	6 00	1 10 31%
23—H. Walton, Howard Wh.....	4 45	1 9 54
24—F. Gebhardt, Stuyvesant Wh.....	4 30	1 9 38%
25—V. J. Lind, Y. M. C. A.....	4 15	1 9 24%
26—C. E. Ramsey, Jr., C. A. A.....	4 15	1 9 25
27—C. E. Bowman, 14th R. A. A.....	5 30	1 10 49
28—A. Kinloch, Paterson, N. J.....	5 00	1 10 19%
29—F. Schwartz, Newark, N. J.....	4 30	1 12 30
30—William Stober, Brooklyn.....	4 45	1 12 45
31—William Slaver, Newark.....	4 30	1 12 30%
32—J. Hurley, Norseman C. C.....	2 00	1 10 00%
33—W. Smith, Maplewood S. C.....	3 00	1 11 0%
34—F. Williams, Prospect Wh.....	4 00	1 12 19
35—Oscar Goerke, National A. C.....	Scratch	1 9 18
36—John Leon, Brooklyn.....	4 00	1 13 18%
37—W. Newland, Howard Wh.....	4 00	1 13 18%
38—H. F. Wachemuth, West N. Y.....	4 30	1 13 45%
39—Fred. Goertz, Brooklyn.....	5 15	1 14 33%
40—Hardy Jackson, New York.....	4 00	1 14 20

Reorganization Committee.

On the request of a very large number of the holders of the bonds and stock of the American Bicycle Co. the following named gentlemen have consented to serve on a committee to reorganize the company's affairs: George F. Crane, of Baring, Magoun & Co.; George A. Read, of Vermilye & Co.; George W. Young, of the United States Mortgage and Trust Co.; F. S. Smithers, of F. S. Smithers & Co., and Colgate Hoyt, of Colgate Hoyt & Co.

Houk on Annual Visit.

George W. Houk, of Green & Houk (Ltd.), London, England, arrived in this country last week on his annual visit, and will probably remain here until the middle of next month. Mr. Houk is the English agent for the Eclipse Mfg. Co., of Elmira, N. Y., and has done a wonderful business for this concern in advancing the interests of the Morrow brake.

FAULTLESSLY GLORIOUS

First Handicap Motor Bicycle Road Race Proved the Rule of Three.

The first handicap road race for motor bicycles was run in Brooklyn on Monday last as a sort of curtain raiser to a more portentous event, the Cycle Path Handicap. The New York Motor Cycle Club and the Associated

ten miles in which three sharp turns were negotiated and which require that power to cut off and the pedals used. Hugo Bendix, N. Y. M. C. C., on A. H. Funke's imported Kelecom and with little more than a practice spin to become familiar with it, lost to Holden by an eyelash or two. G. H. Curtis, who came down from Hammondsport, N. Y., with his ballbearing Hercules motor, was third with a performance that ought to aid the ballbearing idea.

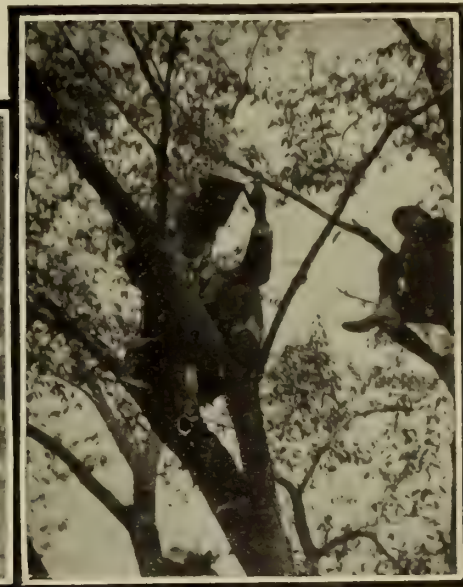
his motor had developed a mullish streak. This left William Dugan, of Jersey City, (45 sec.) on scratch. George P. Jenkins (5:45) was the limit man. He reached the first turn and was heard from no more.

Bendix was first at the five mile turn and had a long lead. Holden had not yet become dangerous. It was on the second lap that he seemed to cut loose and while Bendix and most of the others made the slippery turn in cautious fashion—Bendix actually cut

CHAIRMAN SHANNON AT THE GRAMAPHONE.

POLICE CAPTAIN AND PART OF THE CROWD.

THE IRREPRESSIBLE PHOTOGRAPHER.



G. N. HOLDEN, THE WINNER.

UNUSUAL BREAK IN SEAMAN'S MACHINE.

Cycling Clubs of Long Island joined in its promotion and there was glory enough for both.

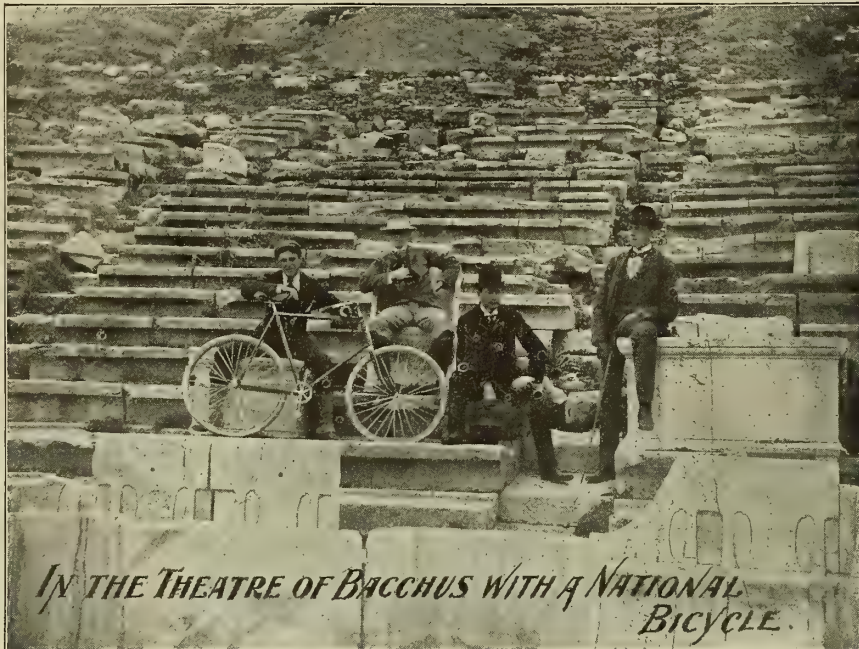
The event was faultless and furnished a whirlwind finish that caught the crowd. It also brought three men, three motors and three machines into bold relief, George N. Holden, of Springfield, Mass., riding Oscar Hedstrom's "pet" Indian, capturing the lion's share of the honors—first place and time prize, and such time! 14 m. 57 3-5 s. for

There were seventeen starters and they used the main boulevard, not the cycle paths. The ten miles were run in two circuits of 2½ miles out and back, the half mile nearest the outer turn being a hard clay road and unfortunately it had been too well sprinkled for safety. It brought down several men, but without serious results.

The scratch man, F. A. Wyckoff, of Newark, N. J., was on the ground, but did not start, not that he lacked desire, but because

a figure 8 to get around the flag—Holden took it in dare devil fashion and cut it close. He gained all the way in the 2½ mile run home, but 100 yards from the tape Bendix was still leading and appeared the winner. But while Holden crouched low Bendix sat almost bolt upright and kept looking around. As a result Holden, who was going great guns, caught him ten yards from the goal and won by a length while the crowd roared; crowds

(Continued on page 592)



THE SAME OLD STORY.

PHILADELPHIA, PA.,

May 23, 1902.

NATIONAL CYCLE CO.,

BAY CITY, MICH.

GENTLEMEN:—In June, 1899, you sold me from the factory one of your \$60.00 wheels. There are plenty of cheap wheels for sale here, in fact, they almost give them away; but my experience with your wheels has been such that I would not think of looking further.

No. 15627 has been in constant use, averaging from ten to fifteen miles daily over all sorts of city streets, and all it cost me in repairs is: 35 cents for cone in pedal, 75 cents for two rods through front and rear hubs, 5 cents for two small balls, \$1.25 for new chain, and last spring two new Goodrich tires, the first ones having worn through the canvas, exploding only because of thinness. The wheel runs as easy as ever. This is a record hard to beat.

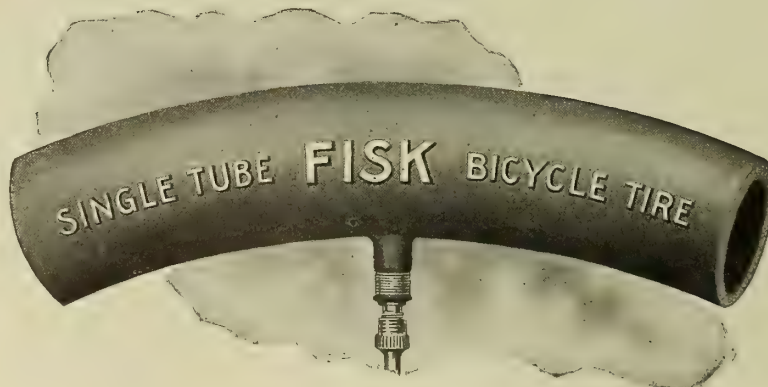
I do not know whether you have an agency here or not. If you can sell to me direct, please send circular of 1902 models. Yours truly, JOSEPH J. MAGIN.

A NATIONAL RIDER NEVER CHANGES HIS MOUNT.

NATIONAL CYCLE MANUFACTURING CO., - Bay City, Mich.

THE BEST OF ALL.

FISK Tires.



FISK Tires.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday

By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] **\$2.00**

Single Copies [Postage Paid] . . . **10 Cents**

Foreign Subscription **\$3.00**

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, SEPTEMBER 4, 1902.

No Cause for Alarm.

While the climax in the affairs of the American Bicycle Company took a very regrettable turn, there is no occasion for alarm or undue forebodings.

In due course, it will probably prove to be the best thing that could have happened for the entire cycle trade. It will clarify the whole atmosphere and result in the big corporation reaching its rightful level and in thereafter standing on legs that will not be affected by every other breath of the stock market.

The most unfortunate part of the matter is the material it affords for sour-mouthed scribblers and calamity howlers to write and speak ill of the bicycle. But this, too, will exhaust itself in time, and while it lasts must be endured since it cannot be cured.

Thinking people will realize that while no longer a "craze" bicycles now constitute a commodity the usefulness of which cannot be impaired or curtailed, and which will always and deserve to be always with us.

The same people will also appreciate that while bicycles are made and sold there will ever be a demand and a place for and a producer of those bearing such proud and historic and intrinsically valuable names as those produced by the American Bicycle Company. Not even trade rivalry will dispute the statement.

Two Kinds of Shops.

It is now pretty well understood by at least a number of repairmen that their cue is to be ready to do odd jobs on the minute.

It is all very well to take a day or two for the ordinary repair work. Where this is in question customers are usually in no great hurry, and are quite willing to get their machines a day or two after they leave them for repair. It is a future ride which they are looking forward to, and they are not particularly pressed for time.

But the transient customer is quite another sort. He is out for a ride and something goes wrong; if it cannot be put to rights at once his plans are disarranged and he is deprived of the trip he had in mind.

In one repair shop that we have had occasion to observe closely an oil brazing forge is kept alight ready for instant use. As a rule it is tire repairs which make the most frequent demands on its service, the flame being used to heat a bit of steel used to burn the ends of tire plugs off. But should a more important duty be demanded of it it is always ready.

Should a customer come in with a punctured tire, for example, one man whose special duty it is to look after such matters is ready to take it up instantly.

He drops whatever job he may be at work on—unless it also happens to be a "rush" job—and turns to the newcomer. The tools are ready at hand—sharpened steel for making or enlarging the hole, plugs of various sizes, benzine for cleaning, cement, pump, etc.—and with deft fingers the repairman handles them one after another and almost in a jiffy has the work finished.

It is the same way if a spoke is to be put in, a bearing adjusted, a pedal pin straightened. Everything is ready, the customer is welcomed as he enters, and he leaves with nothing but pleasant feelings for the shop and its owner.

The contrast between a shop of this kind and a badly managed one is immense. It is only too easy to draw it, for there are many such. One can go on almost any street or

district where repair shops are found and pick them out.

In place of the "glad hand" the customer in a hurry meets with a sour look, and grumbling in an inaudible, or even an audible, tone is heard. If it is decided to undertake the work at all it is done only after much protest, and little concealment is made of the resentment felt that there should be any necessity for hurry. There is other work to be put down and a place cleaned out for the new job. Then tools have to be assembled, dug out of the most inappropriate places, and when found are frequently in bad order. Altogether the rider is made to feel that he is a nuisance, an undesirable customer, whose patronage is little desired.

What rider is there who has not several shops of this kind in mind?

Viewed in a Different Light.

It used to be said that the racing machines of to-day were roadsters of to-morrow.

The disappearance of such machines from the catalogues of many influential concerns destroyed the point of the saying. Roadsters dominated the field, and were made and sold to the practical exclusion of the track or road racing machine. There was no longer any money in the latter, and a retrenchment was the order of the day it was not surprising that the non-earners should have to go by the board.

There are evidences of a slight change in the attitude so long maintained toward the racing machine.

It is being looked upon with a more friendly eye. During 1903 some firms that have either done nothing in this direction or have supported their racing model in a half-hearted way will change their attitude. They now appear to believe that the racing machine is one of a number of models, all of which have their field, even though it be a limited one, in which they can dispose of to advantage.

The chief interest this slight change possesses lies in the effect upon the construction of other models.

If changes are made, as seems likely, it is a matter of some importance to know whether they will, either now or a little later, be reflected in the road machines. Does change in one mean change in the other, as it did in the past?

There is much to be said in the negative. For a considerable time the trend of change in road machines has been in the direction of making them more comfortable. Speed

has received scant consideration. The pot-terer, not the scorcher, has had his inning, and the machines of to-day show that he has made the most of it.

As has been often pointed out, changes at the present stage of the game are almost certain to mean greater weight.

It is no longer a question of taking something out of the machine. That has been done until there is little or nothing that can be dispensed with. This being so, addition rather than subtraction is naturally to be looked for, both in the light of the past and with an eye to the probabilities of the future.

This fact, which is well known, leads to the belief that while changes may come as a result of slightly renewed activity in racing machines, the probabilities are against such a result being reached.

A Solution Badly Needed.

As has often been remarked, hills and head winds are the twin bete noirs of the bicycle. Without them the path of the rider would be smoothed to such an extent that he would have but little to set against the joy and the pleasure of cycling.

Of the two many good judges place the wind first, and a long way first, in the matter of unpleasantness. For every hill that has to be climbed there is one to be descended; and to many riders all except long and steep hills are very small inconveniences indeed. A slackening of speed and a little more push than usual, and the trick is done.

But with a wind to contend against it is very different; and there are no alleviations to set against it, unless we consider the thought of the return journey one.

So rapid is our progress through space that we always have some wind against us. At a twelve or fifteen or twenty mile an hour pace we have just that much wind buffeting us on a perfectly calm day. With even a moderate head wind its velocity is greatly increased. It happens but rarely, therefore, that we do not have to contend with this drawback, and we have become pretty well used to it.

The extraordinary effect of the cessation of this wind pressure is well known.

In following pace, whether on track or road, by racing men or mere road riders, the progress of the sheltered man is facilitated to a degree that is little short of marvellous. The pacer works hard and without a let up; the patee takes things easy, exerting himself scarcely at all.

In paced racing a good rider can follow

almost as fast and far as the best motor pacing machines. Give him a little more protection and he will be unshakable.

It does not seem possible that any remedy can be found for the wind evil. As pace has steadily increased during the past decade, even the most leisurely of road riders taking part in the movement, the head wind has become more of a factor, more and more of a deterrent to steady riding.

The only thing that a rider can do is to take things easy when beating against it. Low gears would be conducive to this end, but low gears are not, and probably never will be, fashionable.

A variable gear would do much to lessen evil, and as time goes on it becomes more and more the logical outcome.

Interest and Enthusiasm.

In calculating motor bicycle probabilities, the items of interest and enthusiasm must be taken into account, for their importance is paramount, and upon them depends much. The dealer in motor bicycles will be successful in the measure that he is interested; if

"We consider *The Bicycling World* to be the best publication of the sort in existence; we read it with great interest."—Wilson & Co., Ottawa, Can.

his interest reaches enthusiasm, the better for him. No man need imagine that mere pecuniary interest will win the highest success. Beyond the desire to sell motor bicycles because they yield a profit, there must be in the dealer's mind a confidence of their success, born of enthusiasm, if he would help the game along and thereby help himself to the best that motor bicycles promise. He cannot afford to be in the list of doubters, nor in the crowd of waiters. He must believe in the future of the newest vehicle, and believing he must preach the motor bicycle gospel to all the world. Otherwise, he is an obstacle to himself, to say nothing of the more important industry, which, incidentally, but not effectually, he may retard. His enthusiasm must be real and effervescent. Such enthusiasm multiplies abundantly, and brings forth good fruit.

Opposition being useless and wasteful, and no other product offering anything like the promises of the motor bicycle, the need of real interest and of enthusiastic interest is decidedly apparent. Get into the business on the ground floor. Believe and preach. It may mean a temporary sacrifice to do so, but in the end it means triumph and success.

The man who lacks enough confidence in the motor bicycle to contribute something to its upbuilding will be undeserving of any share in its harvest. And then, too, the protestant to-day will make an ungrateful advocate to-morrow. Better a prophet than a turn-coat. Better a man with belief in something than a cynic in everything. Better a hopeful than a doubter.

As for enthusiasm, without it there would never have been a bicycle or a pneumatic tire. Enthusiasm brought victory to them both, and it will do as much for the motor bicycle. The harrowing drawbacks of early bicycle construction and manufacture were overcome through enthusiasm, and the pneumatic tire of to-day owes its being to the same agency. Many a dealer and many a repairman sacrificed hours of time and labor to repair early pneumatic tires at an actual money loss rather than to doubt them or to create in the minds of the users a doubt or disgust that might have caused them to give up wheeling—and all these sacrifices have long since been repaid many fold.

Enthusiasm on the dealers' part will create enthusiasm among the wheelmen, and once half a dozen of these have become buyers and users of the motor bicycle there will be no stopping the flood of orders. It cannot be otherwise. There has never been produced in this country an article of genuine merit that has not gained stupendous popularity after the first few buyers had shown by use or wear that it possessed merit. There was no bicycle trade until bicycles began to glide smoothly, silently and swiftly through the streets, carrying their riders about in speed and safety, with little exertion and comparatively slight expense. No man thought of tan shoes until he saw them on other men's feet. Negligee shirts never were demanded until their merit was publicly proved. No rich man ever yearned for a motor vehicle until he saw one running about, a positive success. And there will be no real motor bicycle demand until the introductory preliminary work is done, and done well. Dealers well know what is needed without being told. They know enthusiastic interest and enthusiastic confidence are needed, and they know also that no business awaits them until they display this interest and this confidence. This done, the rest will be easy. Let a motor bicycle be run on a city's streets, bearing on its frame the dealer's name and address, and inquiries will come. A public demonstration of this sort is worth more than it costs.

JULY EXPORTS DECREASE

China and France Principally Responsible
in Offsetting Japan's Large Gain.

During July the exports of cycles and parts underwent a material falling off. So far does the month fall behind July of last year that the slight increase the six months of the fiscal year showed has been wiped out, and the seven months, ending with July, record a decrease.

The July falling off amounts to \$45,000. Of this amount China and France account for almost \$40,000. With British Australia the losses are more than accounted for, those in other countries being more than offset by gains. Shipments to the Chinese Empire dwindled to almost nothing, a beggarly \$2,523 taking the place of the \$28,849 in 1901. If the Yellow Race gave this country's products the go by for a month, however, their neighbors, the Japs, almost made up for it. The shipments to that country almost doubled. Mexico and British Africa also showed a slight improvement.

For the seven months of the fiscal year the values run very evenly with those of a year ago. China British North America and the United Kingdom are the chief culprits, their receipts aggregating almost \$200,000 less than for the same period of 1901. On the other hand, Germany, Japan, British Australasia and British Africa show a marked improvement. The Philippines took less than one-half the quantity they did in 1901.

The record for them onth and for the year follows:

Exported to—	July.		Seven months ending July.		
	1901.	1902.	1900.	1901.	1902.
	Values.	Values.	Values.	Values.	Values.
United Kingdom.....	37,140	32,398	348,223	354,196	308,073
Belgium (a).....	880	2,886	—	24,517	38,569
France.....	23,030	9,946	165,607	162,291	146,681
Germany.....	13,305	3,662	303,715	160,866	228,413
Italy (a).....	1,600	3,949	—	34,293	51,275
Netherlands (a).....	10,288	7,319	—	108,852	117,410
Other Europe.....	12,416	9,779	560,009	231,539	246,075
British North America.....	13,065	13,456	325,910	260,046	133,484
Central American States and British Honduras.....	480	313	786	3,613	2,002
Mexico.....	1,381	4,051	9,912	14,099	16,379
Cuba.....	1,087	641	61,564	6,476	8,277
Porto Rico (b).....	—	—	1,461	—	—
Other West Indies and Bermuda.....	3,492	3,471	27,945	30,622	31,203
Argentina.....	245	245	59,994	4,502	5,293
Brazil.....	392	247	13,512	4,345	3,634
Colombia.....	174	277	3,297	500	740
Venezuela (c).....	6	18	—	1,306	307
Other South America.....	1,633	978	27,501	16,374	12,059
Chinese Empire.....	28,849	2,523	16,294	41,991	18,958
British East Indies.....	4,834	5,436	37,393	37,307	35,049
Hong Kong.....	28	50	4,525	2,353	3,919
Japan.....	19,163	33,878	160,268	160,587	222,245
British Australasia.....	20,484	14,781	132,512	115,630	127,512
Hawaii (b).....	—	—	32,473	—	—
Philippine Islands.....	1,467	265	28,930	24,892	11,576
Other Asia and Oceania.....	3,636	2,281	18,396	13,730	13,999
British Africa.....	6,181	7,268	—	41,482	57,657
All other Africa.....	—	136	27,799	5,298	4,464
Other countries.....	19	—	317	184	12
Total.....	205,215	160,254	2,368,343	1,861,891	1,845,265

(a) Included in "Other Europe" prior to January, 1901. (b) Now American possessions. (c) Included in "Other South America" prior to January, 1901.

The Week's Exports.

While England took the largest shipment of American bicycles last week, China was easily the feature of the week's manifest, with purchases aggregating \$3,415. The record in full follows:

Antwerp—2 cases bicycle material, \$169.
Brazil—2 cases bicycle material, \$41.
British Guiana—8 cases bicycles and material, \$528.
British East Indies—19 cases bicycles and material, \$793.
British West Indies—50 cases bicycles and material, \$1,260.
British Possessions in Africa—25 cases bicycles, \$790.
China—80 cases bicycles and material, \$3,415.
Cuba—13 cases bicycle material, \$620.
Dutch East Indies—5 cases bicycles, \$375.
Dutch West Indies—11 cases bicycles and material, \$160.
Glasgow—3 cases bicycles, \$90.
Havre—1 case bicycles, \$55.
Havre—6 cases bicycle material, \$119.
Hong Kong—1 case bicycles, \$45.
Hamburg—2 cases bicycle material, \$43.
Japan—58 cases bicycles and materials, \$1,556.
Liverpool—366 cases bicycles, \$3,961.
Liverpool—13 cases bicycle material, \$448.
London—7 cases bicycles, \$130.
London—25 cases bicycle material, \$900.
Newfoundland—2 cases bicycle material, \$34.

"Defects (in motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

STARTS ANOTHER RECORD

Hansen Puts up a set of Motor Bicycle Figures for 24 Hours on the Track.

When A. A. Hansen, the Minneapolis rain-maker, was enroute to Chicago on his motor bicycle rain pursued him steadily. When he reached Chicago the skies cleared and when he set out to set up a 24-hour record on the three-lap Garfield Park track, the weather, for once in his career, was not only ideal but held true to the end.

He made his start at 2:04 p. m. on Friday last, August 29th, and when he finished, twenty-four hours later, 634¾ miles was the mark he left on the record book. It was the first twenty-four hour record of the sort and was made on a regular stock two horse power Mitchell bicycle. Hansen's time per hundred miles was as follows:

Miles.	Time.	Miles.	Time.
100	3:15:57	400	16:00:35
200	6:52:56	500	19:35:11
300	11:35:05	600	22:57:17

His average speed was 26.448 miles per hour. His first mile was ridden in 2:20, the second in 1:47; third, 1:44; fourth, 1:43 and fifth, 1:42. Five miles were completed in 9:14; ten in 17:39; fifteen in 26:03; twenty-five in 42:56; fifty in 1:40:31.

Hansen met with no accidents, but while at lunch someone stuck a knife in his tire and caused some loss of time. During the night Hansen's ride required some courage and caution. At 11 o'clock the electric lights were turned off and thereafter and until dawn the light of a number of bicycle lamps was all that illuminated the track. It naturally affected his total—probably fifty miles.

The best previous twenty-four hour performance in this country—on a motorless bicycle of course—was 528 miles 925 yards, made by John Lawson at Los Angeles, Cal., June 10, 1900. The world's record, 634 miles 74 yards, was made by A. E. Walters, the English crack, in a paced race in Paris, September 15, 1900.

Snell Buys Hengerer.

For several weeks past it has been rumored that the William Hengerer Co., Buffalo, N. Y., had sold or was about to sell out, but heretofore the reports have lacked authenticity. It is now announced, however, that the business of the concern has been purchased by the Snell Cycle Fittings Co., Toledo, O.

A Motorcycle Policeman.

In Minneapolis, Minn., one member of the police force, Sergeant Otto Wirtensohn, bicycle inspector, has a motor bicycle. With it he has set out to hold in check the motor cyclists, who are asserted to have been indulging in reckless speeding, especially on the cycle paths.

CHANGE OF OFFICIALS

What one L. A. W. Member Believes it Will Show From the Past Records.

"If the independent candidates for office in the New York Division win, as I hope and believe they will," said an old L. A. W. member the other day, "they should be able to disclose a state of affairs that will make people gasp.

"The several recent administrations have simply named their successors and in that way the 'family skeleton' has been kept within the closet. But from what I have picked up here and there I should say that the books and papers of the Division will make interesting reading. Among other things. I understand that the little family party that has controlled things for years were great friends of certain printers and stationers and handed out money to them with scarcely any reckoning. As a result, the Division office is simply choked with unused and practically worthless printed matter and stationery—enough to last 15 or 20 years, one man told me. The expense vouchers also are said to be rich in material while the correspondence books, if any have been kept, should furnish proof of the petty plot to secede from and wreck the League. The plot is no great secret, but is not of general knowledge, but the men concerned, including the present chief consul, do not deny it. Because they could not run the national organization just as they pleased, they had things arranged to break away from it and form a little league of their own. At the same time some prominent New Englanders were bent on doing the same thing and the L. A. W. narrowly escaped being made the laughing stock of the country.

"Personally I do not see how any member who loves the League can cast a ballot for the re-election of the present incumbents. They have accomplished absolutely nothing and will have a hard time juggling with percentages to throw enough dust in the members' eyes to even make them blink. Their talk about membership percentages shows the straits to which they are put. I do not know if the membership at large has forgotten it, but certainly I recall very distinctly that the men in office and those associated with them are the same chaps who vehemently asserted and promised that if the League would but abandon the control of racing and thereby cease to be what they termed a 'sporting organization' they would add anywhere from 10,000 to 100,000 of New York's best citizens to the membership roll.

"How empty were their promises and performances the existing situation is evidence. They did not add ten members to the list. Instead the Division has since lost 20,000

members and most of the power and influence it once enjoyed. The independent ticket headed by Joseph Oatman is its only hope. If by any chance it is defeated it will be time for even the most loyal member to throw up his hands in despair."

England's Cause for Woe.

England's export of rubber tires and rubber goods for cycles to Germany has much increased during the last year, as shown in the official statistics for the trade in the first half of the last three years. Cycle parts (rubber tires, etc.) tariffed and paying \$5 duty per cwt. were imported as follows:

	1902. Cwts.	1901. Cwts.	1900. Cwts.
Total import.....	710	412	310
Total value.....	\$88,750	\$51,500	\$24,250
	1902. Cwts.	1901. Cwts.	1900. Cwts.
From Great Britain.....	518	254	122
From France.....	80	58	46

The import of cycle parts (rubber tires, etc.), of tissues covered by caoutchouc, as tariffed under 489b, and paying \$9 per cwt. duty, amounted to:

	1902. Cwts.	1901. Cwts.	1900. Cwts.
Total import.....	748	80	100
Total value.....	\$58,500	\$6,250	\$12,000
	1902. Cwts.	1901. Cwts.	1900. Cwts.
From Great Britain.....	620	6	—
From France.....	58	42	54
From United States.....	8	16	18

Germany's cycle import is persistently decreasing, and its export increasing. The import of cycles for the above mentioned periods has been reduced and the export increased at the following rate:

	1902. Cwts.	1901. Cwts.	1900. Cwts.
Total import.....	3,176	3,528	536
Total value.....	\$230,500	\$267,250	\$570,000
	1902. Cwts.	1901. Cwts.	1900. Cwts.
From Great Britain.....	198	274	432
Total export.....	28,476	22,146	20,360
Total value.....	\$2,424,250	\$1,894,500	\$1,727,000
	1902. Cwts.	1901. Cwts.	1900. Cwts.
To Great Britain...	3,392	2,198	1,600

The American cycle trade is regaining its hold on the European cycle market, and the progress goes on at quite a rapid rate. The monthly summary of commerce and finance has published the figures for the nine months, July to March, of the last three years, and the figures of the Continental business are startling the English trade press. The English import is enormous, and the press of that country would like to know where all the machines and parts go to, as they claim one only rarely finds nowadays a machine openly labelled as American. The European imports amounted to:

	1902.	1901.	1900.
Great Britain...	\$300,152	\$253,514	\$294,048
France	155,621	96,801	180,332
Germany	230,508	113,952	322,959
Other European countries	432,941	303,578	515,139

It is estimated that 97 per cent. of motorcycle troubles are electrical trouble. It follows that the "A B C of Electricity" should prove of interest to all motocyclists. Price 50 cents. For sale by the Goodman Co., 124 Tribune Building, New York.

CONDUCTING THE SHOP

Not Only Good Organization and Tools, but Good Surroundings are Essential.

From a paper read by A. P. Loscher before the Manchester (England) Association of Engineers, the following ideas have been summed up on shop organization:

When aiming at economical and accurate production, great care and attention must be paid to the tool room, which should be the best organized and up-to-date department within the works. Every detail should have its proper place, and every drill, tap, die, etc., constantly kept sharp, and in the best of condition, ready for use. All tools should be ground by one or several men, especially appointed. This will not only save time, but insure correct sharpening of tools, by the use of clearance gauges, and provide the men, who should keep duplicate sets, with a constant supply of first-class tools, thus saving their own time being lost on such operations. All special tools, drills, jigs, gauges, forming tools, box tools, templates, etc., should be demanded from and returned to the tool room. They should be given out in return for checks only, and the latter placed on the shelf or in the partition from which the tool is taken, while a ticket containing the description of tool should be placed upon the respective number of man on check board. This board contains all the numbers of employees, and is of course kept in tool room. When the tool is brought back, the check is returned to the workman, tool replaced, and ticket upon check board destroyed.

Drawings are given out, and returned in a similar manner from the drawing office. Each man, therefore, is supplied with two sets of checks, which are of two different diameters, to make the distinction between drawing and tool checks.

A well-lighted and ventilated workshop, with every necessary sanitation to insure the utmost cleanliness, has never failed to favorably influence the workman and his production. Nine cases out of ten prove the fact that the best machines, the most reasonable in price, have been made by men who are employed in workshops where modern organization has done everything for their health and comfortable surroundings. The proprietors of these up-to-date concerns are generally not in the habit of boasting as philanthropists, but have strictly acted on business lines, knowing that to build up a modern and profitable manufacturing concern it is absolutely necessary to consider the welfare and convenience of the workmen accordingly.

Such modern and successful organization has not only shown an increased output and accurate production, but has also obtained better relations between employer and employee, which have led to mutual satisfaction.

While improving his education, the workman will show more aptitude for modern production and appreciate the value of sanitary arrangements, and preferably seek employment in workshops where such conveniences can be found.

Mutual benefit can only follow by offering full scope for the workman's experience, knowledge and ambition. Every means and opportunity should be open to him for stating any suggestion he may have for improving upon the design or production of the various articles handled in the works. I think that suggestion boxes, as found in several up-to-date concerns, answer the purpose very well. Such a box secures secrecy and wins the confidence of a man. Prizes distributed for the best suggestions will stimulate the necessary encouragement. It is, further, of importance for the success of an establishment, to maintain the most truthful and strict business-like relations between the foremen of the various manufacturing departments. While receiving the individual reports of the different departmental foremen as to particulars and progress of work in hand, the works' manager should also confer with all his foremen, chief draughtsman and head storekeeper at a periodical conference.

Nothing will more endanger successful production than jealousy or friction between various authorities responsible for the output of a concern.

Going West?

If you purchase your tickets via the Nickel Plate Road, the shortest route between Buffalo and Chicago, you will secure the best service at the lowest rates. Three fast thru express trains daily, in each direction, between Buffalo, Erie, Cleveland, Ft. Wayne and Chicago, making close connections at the latter city with the fast trains of the Western roads. The trains on the Nickel Plate Road consist of elegant vestibuled day coaches, sleeping cars of the latest models, and Nickel Plate dining cars serving famous individual club meals at rates from 35 cents to \$1. Thru sleeping cars are also run from Boston, New York, Albany, Syracuse, Rochester, Scranton, Binghamton and Elmira, and many other Eastern cities.

If your ticket agent cannot give you the information desired, address F. J. Moore, General Agent, Nickel Plate Road, 291 Main St., Buffalo, N. Y. ***

Wayside Refreshments.

Milk chocolate is said to be better than the ordinary kind, inasmuch as it is not so thirst provoking as the latter. Raisins are also recommended to cyclists who take long rides and wish to be, in a measure, independent of wayside accommodations. Years ago a biscuit containing currents was used with the same intent by riders who indulged in road contests requiring an early start and with routes lying through infrequented sections.

MIXTURE MYSTERIES

Some Seeming Discrepancies Detailed by one who has Tested.

There is one little point about mixture which is a puzzle to many because practice seems to disagree with theory—showing that the theory is incomplete and inaccurate. With all carburetters the action is the same, namely, that for each volume of vapor given off from the petrol so many volumes of air are added to give an explosive mixture. A correspondent of a foreign motorcycle journal draws attention to this condition of things, and in detailing the mysteries says in part:

"I believe that the proportions are approximately eight of air to one of gas, and I take it that it is the oxygen contained in the air

case a proper proportion of air would be needed, and, moreover, the rate of vaporization cannot have much to do with the matter, because the engine only sucks in as much gas as will fill the cylinder.

"If the fact of the vapor being given off slowly had any ill effect, it would appear that the proper thing to do would be to open up the throttle, whereas, as all who have had any experience will agree, the motor does not require the throttle to be opened to any greater extent at nighttime than during the day.

"So, this is my puzzle. I know for a fact that the supply of air is always less at nighttime; it seems as if the vapor must be coming off in sufficient quantity and of the quality to demand its full allowance of oxygen, and yet the act of opening the tap and letting in air will spoil the mixture.

"One fact I have noted, and that is that the mixture varies in its sensitiveness to movements of the air supply. When the tap is much open and a large supply of air is being given, the adjustment is very delicate and the slightest movement of the tap to one side or the other of the correct point will disturb the mixture.

"But when little air is going through the tap can be moved backward and forward some little distance without sensibly affecting the results. When negotiating traffic at a slow pace I invariably weaken the mixture by admitting just a little more air than is necessary for providing correct mixture. The impulses are not so powerful and the exhaust is quieter."

A. B. C. AFFAIRS COME TO A CLIMAX.

(Continued from page 580.)

American Bicycle Co., actually worth \$275,000; accounts receivable, \$6,180; cash in bank, \$14,000; plant at Syracuse, N. Y., worth \$45,000; plant at North Buffalo, worth \$36,000; plant at Thompsonville, Conn., worth \$25,000; plant at Hartford, Conn., \$170,000; plant at Reading, Pa., \$50,000; plant at Chicago, \$35,000; accounts against James M. Crosby and R. S. Crawford, of Philadelphia, \$1,927; note of Morgan & Ball, \$3,500; plant at Shelby, O., \$39,000; plant at North Milwaukee, \$50,000; miscellaneous assets at various places in United States and Europe, \$25,000.

The statement of assets, values and liabilities is based on information furnished by the treasurer of the company. It is admitted that the estimate is greater than the value of the properties in the event of a prompt liquidation of the company's affairs. For a continuation of the business, under the reorganization plan now being considered, it is declared that the properties are worth a great deal more than the estimates given.

A man with but one single idea is a crank. Under this definition many enthusiastic automobilists may be deemed cranks, but there are a lot of people criticising motocyclists who have not even reached the dignity of being cranks.



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

that is of value for the purpose required. Therefore, it follows, naturally, that when the air is rich in oxygen a smaller bulk of it would be required than when it was poor in that particular gas. Now, on a bright summer's day the air tap will be well open, allowing ample air to go through, while as night draws on the air tap will have to be gradually closed. On some nights I have run the machine with the air inlet completely shut.

"Now, what are the conditions when the air tap has to be nearly closed before the correct mixture can be obtained? Is the air so rich in oxygen that very little of the former provides all that is necessary? And, on a bright summer's day, is the air so poor in oxygen that a large bulk of it is necessary before the correct supply of oxygen is provided? Somehow, this seems to be wrong, and I should have imagined that when the air is heavy or humid more of it would be required.

"It might be suggested that the petrol will vaporize more readily on the aforementioned summer's day than it will in the evening, but, even then, it would appear that in any

TRYING A CUSHION FRAME

How a Small Matter Changed Tribulations Into Jollifications and Advocacy.

Some months ago we received a mudguardless hygienic cushion-frame bicycle for trial, says the Irish Cyclist. The first test was most disappointing. The rider condemned the machine in the most unmeasured terms. It ran absolutely dead, and the work of propulsion was so great that it damned the machine. The cycle was cursorily examined and the wheels were found to be quite correct. The rider was quite emphatic about its worthlessness and would not ride it again.

Another of the staff ventured out on it, anxious to give it a fair trial, for he had been for years an enthusiast on the superlative merits of the rigid frame bicycle made by the same concern. He could not believe that a company with such a reputation would produce a bad cycle.

But he came back disgusted and hot. The labor of pushing the brute was intolerable. Others of the staff gave it short trials and all held the same opinion. Owing to the lack of mudguards, and on account of the wet weather then prevalent, it was not possible to give many tests, but quite enough were made to condemn the machine. It was ostracised, and we deferred our report on the machine until such time as circumstances would permit of a thorough overhauling and testing.

One of the testers was so convinced of the worthlessness of the cycle that, out of philanthropy, he suggested the course of writing to the makers and advising them to cease the manufacture of an article which could not but damage their reputation. We decided to do nothing until we had leisure to examine the affair thoroughly, and, therefore, never praised nor condemned the article.

So the machine waited neglected and forlorn until one day a member of the staff had a mishap to his own cycle. A machine was required by him in an emergency and none but the cushion frame offered. So unpleasant had been his previous experiences that before taking it out he decided to make a most careful overhaul. He found everything quite right. On mounting the saddle, however, he noticed that the rim brake which was fitted on the bridge was very close to the rim. More careful inspection and testing indeed proved that it touched. Dismounting, he found it was quite clear, though the margin of clearance was very small. He mounted again and noticed that his weight caused a certain depression in the flexible bridge which brought the brake in contact with the rim.

The whole secret was out! With a heavy rider in the saddle the brake was in gentle contact with the rim all the time, and this produced just enough retarding power to make the machine abnormally dead. Had it gone on very pronouncedly there would have

been such a drag that the defect would be at once sought out. But it happened to be merely sufficient to give a constant deadness such as is to be found in very poor grade machines and in not a few spring frame cycles built on wrong principles.

A readjustment of the brake was made without delay, and from being the scapegoat of the office the machine has sprung to be one of the favorites. The testers who condemned it have tried it thoroughly under the new conditions and are hugely delighted with its sweet running powers and the way it mounts hills; and as for the comfort, we think it one of the most luxurious machines yet ridden. It has won unstinted praise from all who have tried it, and it has been tried very extensively since the correction was made.

The case should act as a warning to other riders of spring frames. It is quite possible that there would be brake clearance enough for a light weight rider, but the extra weight of a heavy rider would manage to bring the brake in contact. But in any case the rider should experiment by seating himself in the saddle and getting a friend to observe if the brake touches the rim. On bumpy roads, where there would be considerable play in the flexible bridge, it might happen that the brake pads would intermittently touch the rim. A fair clearance should therefore be given the brake.

The case has other points of importance. It shows the unwisdom of hastily pronouncing an opinion, and it also demonstrates the fine perception which constant usage of the very best machines engenders. They have quite spoiled us for bad machines, and we feel any deadness in a machine very quickly when we change on to it from one of our favorite mounts.

Saving on Catalogs

It is a common failing with firms desirous of working on the most economical basis to cut down their advertising expenditure, in which, of course, is included the very necessary catalogue, says a foreign contemporary.

To show how some firms' catalogues have deteriorated, as far as bulk, typographical and pictorial excellence are concerned, one has only to refer to some issued during the boom of '97 and '98, which were quite lavish in style compared with the slim, skimpy productions of the present day, which, in some instances, show a strenuous effort at economy. A few years ago there was a marked appearance of quality, and, in some cases, it is a pleasure to find that this high standard of production has been maintained.

The catalogue goes out as a means of introduction between the sender and prospective purchaser, and the better the impression that introduction makes at the time the greater will be the influence on the person concerned. There are other and better ways of achieving financial retrenchment than interfering with so valuable a business asset as the catalogue.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

BELGIAN MOTOCYCLES

Business in Complete Machines and Motors Increases 1000 per cent in one Year.

The great popularity of the motor bicycle has given a great impetus to the trade in Belgium. An idea of the extent of this is given by the Belgium customs' returns for the six months ending with June last, which show that during that period the complete motor cycles and parts of same exported from the country attained a value of \$184,520, as compared with only \$19,080 in the same corresponding period of last year. On the other hand, the value of the motor cycles and parts imported into Belgium declined from \$8,745 in the first half of 1901 to only \$5,320 in the six months ending with June last.

There is a tendency amongst some of the critics of motor bicycles to ask too much in the way of neat appearance, says Cyclers News. Their ideal apparently would be that design in which the engine and all the other parts were hidden away in the ordinary tubes of a diamond frame. Everything exposed is thought to be an eyesore.

Now, a little engine is by no means an unsightly article, and it does such important work that nothing whatever of its efficiency should be sacrificed in any finicking attempt to improve appearances. The tanks are the worst offenders to the eye, but if the surface carburetters are done away with there will be one tank the less, and more scope will be available for arranging the others in some form of symmetry.

With an attempt made to obtain a few graceful curves or symmetrical lines, and a better finish of the detail work, many of the motor bicycles of to-day could be pronounced quite sightly. In a measure the fault lies with the public eye. We thought the pneumatic tire at first a most unsightly attachment to a bicycle; now, when we see a solid-tired machine we wonder at ourselves for thinking beauty could lie in such a skeleton. It is so also with motor cars, and so it will be with every innovation which adopts new lines.

Westerners Returning From New England Seacoast and Mountain Resorts

To Pittsburg, Pa., and points on the Pittsburg & Lake Erie Railroad, will find the schedules and through train service, via Boston & Albany and New York Central, thoroughly up to date. Pullman Sleeper leaves Boston 10:45 a. m. daily, except Sunday, arriving Pittsburg 6:02 next morning. Dining car service enroute at convenient hours.

Copy of "Westbound," containing detailed schedule and train service of this and other through sleeping car lines west over New York Central lines, can be obtained upon application to Ticket Agent or Passenger Department, Boston & Albany R. R. ***

RACING

At the circuit meet at Manhattan Beach, August 30, Kramer scored another victory over Taylor in the one-third mile championship, but not without protest. Kramer was last to leave the tape, with Lawson leading and Bedell and Taylor second and third. After two-thirds of the distance had been covered Kramer sprinted, passing Lawson, Bedell and Taylor as though they were standing still, getting first place by two yards from Lawson, who was a wheel's length ahead of Bedell. Taylor sat up and when he dismounted entered a protest, claiming that he was pocketed by Lawson and Bedell. His claim was allowed by the referee and he was given second place, Lawson and Bedell being disqualified. Kramer's time was 43 seconds. In the five-mile professional handicap Kramer and Taylor declared to team. This left at scratch Kramer, McFarland and Taylor. Fenn did not ride. Collett, Fisher, Lawson and Kimbel had fifty yards and Schreiber, Bedell and Stevens were at the hundred-yard mark. At two and a half miles the scratch men caught the bunch and stayed with them. Kramer had been pulling McFarland for the two laps previous to the bell, when he seemed to get lost, thus giving Taylor a chance to sprint ahead. Taylor won this race, with McFarland a close second, after a fierce struggle to the tape. Martin was third from the 150-yard mark, and Jacobson secured fourth, also from the 150-yard mark. Time, 11:18. S. A. Shirley, with 100 yards handicap, made a runaway race of the ten-mile amateur handicap event, gaining 200 yards on the field and winning by over 100 yards from Beyerman, with Hurley, who had started from scratch, third, and Edwin Forrest fourth. The time was 26:04. Owen Kimble won the third of a mile consolation race for professionals after a sharp sprint at the tape with M. Bedell, who beat out Bowler by two feet. Time, 1:20. There were three motor bicycle races but the least said of them the better. The motors were on their bad behavior and uninteresting runaways were the result. W. F. Seaman won the pursuit race, W. M. Dugan (220) the two-mile handicap and the Alpha Motor Cycle club the five-mile team race, in which but two men finished.

Five thousand spectators saw Kramer finish first in the Labor Day handicap, a five mile race, at Vailsburg, September 1. It was a great exhibition of pluck on Kramer's part. Starting from scratch with McFarland and Iver Lawson, Kramer alternated pace until the fifty yard men were overtaken. Fisher, Collett and Kimble were on the latter mark, but their efforts were devoid of gains, and Kramer and McFarland went to the front and exchanged sprints, which soon brought them to the 150 yard men. At the fourth mile it looked as if the scratch men were out of it, but on the second lap Martin, with Beauchamp and Kramer hold-

ing fast, cut out a pace that brought them up to the leaders. Going around the front markers, Martin continued his sprint, and after passing the eighth pole on the last lap sat up, allowing Beauchamp and Kramer to fight it out. With Beauchamp two lengths to the good in the stretch, Kramer put forth his best effort, and came away like a shot, winning by two lengths in 10:35; Beauchamp (150 yards) second, Bedell (100 yards) third, Lawson (scratch) fourth. In the final of the half mile professional eight riders qualified, and when the start was made Bowler lagged behind. He went high up the bank on the first turn and on the backstretch he darted down. Before the others realized it Bowler was twenty lengths to the good. A moment later McFarland started in pursuit, but Bowler was too far in front to be overtaken. Kramer finished second, J. G. Fisher third, J. Bedell fourth; time, 1:02 1-5. The half mile match race between Hurley and Billington was closely contested, Billington forcing Hurley to do his best in both heats. Hurley, however, won the first in 2:09 1-5 and the second in 2:11. The quarter mile open amateur was won in a sprint by Hurley; Billington was close up, Gleason third and Bailey fourth; time, 0:33 2-5. Shirley had 120 yards in the two mile handicap, and won rather handily. M. Coffey (90 yards) was second, A. C. Spain (210 yards) third, and E. Goodwin (210 yards) fourth; time, 4:05 1-5. F. A. Dalke was lap prize winner.

There were thirty-seven starters in all, with eight of the number on scratch, in the ten mile professional handicap at Vailsburg August 31. The scratch men were slow to get away, with the result that the men placed on the 350-yard mark caught up to the back mark men early in the struggle. With this advantage in their favor they stuck to the scratch men to the end. Only nine men were left in the struggle at the beginning of the tenth mile. The final sprint was between Bardgett and Armbruster, the former winning by a length, in 22:10 4-5. Bardgett had 350 yards, Armbruster 350 yards, second; "Bill" Martin, 150 yards, third; M. Bedell, 150 yards, fourth. While Hurley had little trouble in winning the half mile open, he met a tartar in the one-mile handicap. Hurley tried to sprint a full quarter at the finish, but Gleason caught him at the tape winning by inches only in 2:03. F. Dahlke, 120 yards, third; S. A. Shirley, 120 yards, fourth. Hurley and Gleason were both on scratch. Hurley won the half in 1:19 2-5, Zanes second, H. Welsing third. The one-mile professional was won by G. Bedell. O. Kimble finished second, J. Bowler third and O. Stevens fourth. Time, 2:39 1-5. Three thousand five hundred people viewed the races.

The races at Boston September 1 were a chapter of accidents. Walthour, Moran and Joe Nelson started in a twenty-five mile paced race, but Nelson's motor refused to work for a time. When the start was finally made Moran had the pole, with Nelson

second and Walthour on the outside. Nelson's motor balked after two miles, and he continued unpaced. A chain on Moran's motor broke in the fourth mile, and Moran went on unpaced. Walthour continued behind his motor. The race was stopped after Walthour had gone eight miles, and he was declared the winner. A ten mile race between Moran and Walthour was then started. In the fourth lap of the first mile Moran rubbed tires with his motor. He was thrown and, being injured, the race was declared off. Nelson rode an exhibition ten miles against time, making five miles in 7:03 2-5 and ten miles in 14:18.

Kramer won the final of the third mile national professional championship over Taylor by a scant yard at Springfield August 28 before 2,000 people. Iver Lawson was third, G. H. Collett fourth. Time, 39 4-5. G. C. Schreiber won the final in the two-mile professional handicap from the 50-yard mark. J. T. Fisher, 30 yards, second; J. Moran, 60 yards, third; J. P. Jacobson, 80 yards, fourth. Time, 4:07. The half mile consolation was won by O. S. Kimble; F. Krebs, second; M. Bedell, third; J. Newkirk, fourth. Time, 1:04 2-5. The two-mile motor bicycle race between O. Hedstrom and G. White was a failure, White's motor giving out in both heats; Hedstrom winning in the comparatively slow time of 3:04 4-5.

Harry Caldwell defeated Elkes by two laps in a twenty-mile race behind single pace at Hartford August 28 in 31:57. Caldwell gained a half lap on the second mile, and although Elkes made a number of spurts he was unable to pass. In the eighteenth mile Elkes burst a tire. According to an agreement, Caldwell let his pace go by while Elkes jumped on a new wheel. The race was won on its merits. In the five-mile lap race F. Ernst won first place with 34 points; T. W. Linley, second, 22; C. L. Hollister, third, 16; E. Stauder, fourth, 15. The final heat in the one-third mile amateur handicap was won by T. P. Davis, 25 yards; L. Sherman, 50 yards, second; O. Diggs, 20 yards, third. Time, 0:39 2-5.

At Boston August 30 Albert Champion won over Elkes in a 25-mile paced race. The men started from opposite sides of the track, and in the first five miles Elkes gained about 30 yards. Then Champion gained and passed Elkes in the ninth mile, and again in the tenth. Elkes rallied in the fifteenth and overtook Champion, but the pace was too fast and he dropped back and finished a lap and a half in the rear. The time was 37:05 1-5. The three-quarter mile handicap, amateur, was won by F. Partridge, 95 yards, in 1:25 2-5. The 10-mile open, amateur, was won by E. F. Root in 25:23 1-5.

Over 2,000 people witnessed the races at Baltimore September 1. The two mile motor cycle handicap proved to be the most interesting event. Five motor bicycles and one tandem were in the field, and they made

a hot struggle. French and Hippler on the tandem won from scratch in 3:59; W. G. Le Compte (200 yards) second, Edward Eitel (350 yards) third. The five mile race had six starters. In this the tandem riders gave the motor bicycles a mile start. The tandem gained half a mile, but could not overcome the handicap. Le Compte won, but was hard pushed by Eitel.

Joe Nelson won two races from Floyd McFarland at Philadelphia August 27. The first race was a twenty-mile paced event. On the seventh mile McFarland's chain broke and Nelson won easily. A special five-mile paced race was then arranged and Nelson won this event by a lap and a half. His time was 7:32 1-5. M. T. Dove of New York defeated James Phillips in a half mile dash, best two in three heats. Dove's best time was 1:16.

Motor bicycle racing seems to be the most popular part of the programmes at Pabst Park, Milwaukee. August 28, in the five-mile event, W. Headspeth distanced Alex Peterson and G. I. Kramer, riding the distance in 10:47 1-5. Orlando Weber defeated Peterson in the two-mile race by a fine sprint in the final lap. Time, 4:17½. In the one mile Headspeth finished first, G. I. Kramer second and Peterson third. Time, 2:36¾.

Albert Champion beat Elkes and Stinson at Boston September 1 in a twenty-five mile paced race. Up to the last mile it was an exceedingly close fight, but at that point both Stinson's and Elkes's motors went wrong, and the two rode unpaced. When Champion finished Elkes managed to pull into second place just ahead of Stinson. The time: Five miles, 7:22 3-5; ten, 14:27 3-5; fifteen, 21:34 4-5; twenty, 28:57; twenty-five, 36:21 4-5.

At Philadelphia, September 1, Munroe added another victory to his record yesterday, when he easily defeated H. Freeman and T. Hall in a twenty mile paced race. The race was a one sided affair, for the reason that Hall dropped out in the first mile because of an accident to his pace. This left Freeman and Munroe. Freeman

was no match for Munroe, who finished laps to the good.

W. H. King won over George Leander in a ten mile paced race at Atlantic City August 30. Time, 16:28 1-5. The rear tire on Leander's pace exploded, throwing the riders off. Leander won the three mile pursuit race from King in the fifth lap in 1:20 2-5. Thompson and Boake rode a mile on their ¾ h. p. tandem in 1:24 3-5.

The half mile circuit championship race at Philadelphia September 3 was awarded to Iver Lawson. Kramer was given second place. Major Taylor won the race and James Bowler finished fourth, but they were disqualified for team work. Taylor's time was 0:59 2-5. The other races were interfered with by rain.

Charles Mock's record of 6 hours 8 minutes and 35 seconds for 100 miles on the road unpaced stood for just one week. Over the same course, August 31, Wilson Higinson reduced the figures to 5 hours 37 minutes, a reduction which is likely to stand for some time to come.

At Atlanta, September 1, Jay Eaton defeated Gus Lawson in two straight five mile heats of a single paced race. Eaton won both heats easily, finishing the first heat in 8:02 2-5 and going the distance in the second in 8:30.

Basil de Guichard defeated Harry Elkes in the twenty-five mile pace race at Providence September 1 by a lap and a half in a fine contest. It was anybody's race until the very finish. The distance was covered in 37:03 3-5.

Merely Ahead of the Times.

There died at Hyde Park, near Boston, last week a man who invented an epoch-making article, but invented it too soon and derived no benefit from it. Nearly fifty years ago George H. Miller and another man made a set of rubber tires for a buggy in which they attempted to ride about in Boston and Cambridge, but were prohibited from so doing by the police of the two cities, as it was claimed that rubber tired vehicles were a nuisance and a menace to the safety of pedestrians.

FAULTLESSLY GLORIOUS.

(Continued from 581.)

have learned to know speed when they see it, and a speed of better than 1:30 per mile on the road is moving a bit.

The third man, Curtiss, who had slipped at the outer turn, was not far behind and the fourth one, W. F. Seaman, was in sight and though none knew it was taking long chances with Fate. He had fallen at the treacherous turn and did not know that he had broken his machine until he finished. He saw and felt the motor sway, and knew that something was wrong, but he maintained his better-than-two-minutes pace and finished well up. When he dismounted he found that the part of the lower tube of his frame had snapped off clean and been lost on the road. Only the boltings of the motor held the bicycle together and prevented a fall, the consequences of which are not pleasant to contemplate.

The summary of the results follow:

4—G. N. Holden, Indian.....	1¾	1 45	14 57%
2—H. Bendix, Kelecom.....	2	4 45	17 58
3—G. H. Curtiss, Hercules.....	2½	2 30	16 04
4—W. F. Seaman, Mitchell.....	1¾	4 45	18 33
5—David Miller, Orient.....	2¾	3 45	18 05
6—P. H. Johnson, Indian.....	1¾	1 45	16 12
7—S. W. Anderson, Orient.....	3	1 00	16 14%
8—J. E. Whitten, Auto-Bi.....	1¾	4 15	19 49%
9—F. A. Baker, Indian.....	1¾	2 00	17 49
10—C. J. Arnold, Merkel.....	2	4 45	19 28
11—G. W. Sherman, Indian.....	1¾	1 45	18 19
12—William Dugan, Orient.....	3	0 45	18 20
13—F. M. Dampman, Indian.....	1¾	2 00	21 06

Also ran: George P. Jenkins, 1¾ h. p., Marsh, 5:45; J. H. Finnegan, 2¾ h. p., Orient; J. H. Wise, 2¾ h. p., Orient, 2:45; Leslie Rand, 2¾ h. p., De Dion, 1 m.

False and True Economy.

While economy is an essential in carrying on business of any kind it can have its abuses as well as its uses. Economy does not consist in merely putting down expenses; its true use and its real value comes in regulating expenses. There is an old saying which has had its force somewhat weakened by being overworked, yet its truism, that "a dollar can be spent in saving a penny," ought never be discounted.

There are perhaps few concerns that could not introduce economy to some extent, but there are far more that could study what real economy means and apply it under rules which would increase business rather than merely cut down a cash outlay. The cheapest methods of production and the cheapest methods of selling that product are often the means that lead to a receivership.



Model 16. Price, \$1000.

"BUFFALO TONNEAU" WITHOUT AN EQUAL.

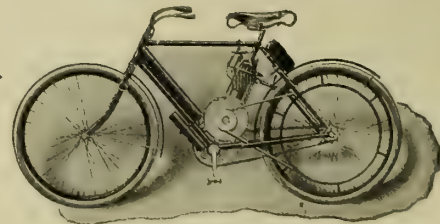
"ITS UP TO DATE."

THOMAS "AUTO-BI."

AS A FAMILY VEHICLE IT IS IDEAL.
AS A TOURING CAR IT IS A SUCCESS.
ATTAINS A SPEED OF TWENTY-FIVE MILES PER HOUR.
CLIMBS WITH EASE GRADES OF TWENTY-FIVE PER CENT.
HAS ALL FEATURES FOUND ON HIGH-PRICED CARS.

E. R. THOMAS WORLD'S RECORD MOTORS.
HIGHEST EFFICIENCY.
THE FIRST MADE. THE MOST USED. THE PEER OF THEM ALL.
Winner of the ONLY Gold Medal in Economy and Blue Ribbon for Fifty Mile Non-Stop Contest.

Particulars and Illustrated Catalogue on application.



Model 4. Price, \$175.
3. "150.

BUFFALO AUTOMOBILE & AUTO-BI CO., 1190-1200 Niagara St., Buffalo, N.Y., U.S.A.
BOSTON OFFICE, 174 Columbus Avenue.
NEW YORK OFFICE, 29 West 42d Street.

The Week's Patents.

707,514. Handlebar support. Lazarus S. Kallajian, Boston, Mass. Filed June 28, 1901. Serial No. 66,322. (No model.)

Claim.—1. In a bicycle, a reversible handlebar post, both ends of which are adapted to be inserted in the steering head, an expander on the interior of said steering head and adapted to co-operate with that end of the handlebar post inserted into the said head, means to operate said expander from the exterior of the steering head, and means to secure the handlebar to the projecting end of the said handlebar post.

707,550. Self-Healing Material. George H. Chinnoek, Brooklyn, N. Y., assignor, by direct and mesne assignments, to J. J. Nichols and H. H. Jandorf, New York, N. Y., and S. S. Ryckman, Grimsby, Ontario, Canada. Filed Apr. 24, 1896. Serial No. 588,869. (No specimens.)

Claim.—A composition of matter, consisting of a pasty mass of gum caoutchouc, wax, resinous gums and volatile oils in suitable proportions, hermetically sealed between layers of rubber and inserted within the

walls of the article in which it is to be used, in substantially the manner set forth.

707,592. Anti-Friction Cover for Bicycle Saddles. William W. Hughes, Urbana, Ohio. Filed Dec. 5, 1901. Serial No. 84,733. (No model.)

Claim.—1. An anti-friction device for bicycle saddles, comprising a bifurcated cover firmly secured to the front and loosely secured to the rear ends of the saddle, substantially as described.

707,593. Clutch. Frederic W. Jones, London, England. Filed Aug. 13, 1900. Serial No. 26,721. (No model.)

Claim.—In a clutch, the combination of a driving part, a driven part, a concentric surface of the driven part, a double eccentric surface on the driving part, a taper intermediate gripping piece adapted to engage in one direction, a taper intermediate gripping piece adapted to engage in the other direction, and a stop on the driving part dividing the double eccentric surface, the said stop being located between the larger ends of the two taper gripping pieces, substantially as and for the purpose set forth.

707,661. Pneumatic Tire. Moritz Weiss,

Vienna, Austria-Hungary. Filed May 14, 1902. Serial No. 107,309. (No model.)

Claim.—1. The combination with a rim, two contacting air tubes seated therein, a cover inclosing the tubes, adapted to be secured to the edge of the rim, and a ring between the two tubes above the transverse centre line thereof adapted to draw said cover below the bearing surface of the tubes, for the purpose set forth.

707,672. Wheel Gear. George S. Baker, London, England. Filed Dec. 3, 1901. Serial No. 84,567. (No model.)

Claim.—1. In a speed gear the combination of a driving pinion, a compound planet pinion gearing therewith having several portions of greater and of less diameter than the last portion, an internally toothed rotatable ring engaging with each portion, a driven shaft connected to the last ring and a locking device for each of the other rotatable rings.

707,731. Electric Battery. Ernest A. G. Street, Paris, France, assignor to Societe Anonyme le Carbone, Levallois-Perret, near Paris, France. Filed Apr. 22, 1902. Serial No. 104,194. (No model.)

THE STANDARD WELDING CO.

CLEVELAND, OHIO,

MANUFACTURE

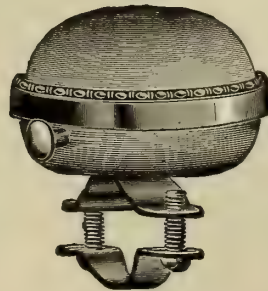
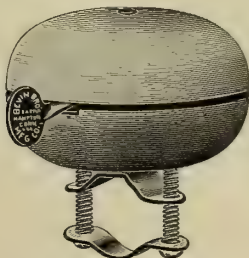
THE HIGHEST QUALITY

AND

MOST ACCURATE



BEVIN BELLS—Bells That Ring True.



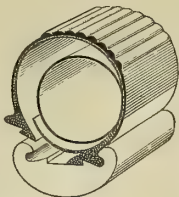
GET CATALOG — IF YOU HAVE NOT ALREADY OBTAINED ONE.

BEVIN BROS. MFG. COMPANY, - - East Hampton, Conn.

G & J TIRES

MADE FOR THOSE WHO WANT THE BEST.

They are detachable, double tube; are made from the best materials; ride easiest and wear longest. Anyone can repair them anywhere.



Catalogs and Prices on Request.

G & J TIRE CO.

INDIANAPOLIS, U. S. A.

Makers of G & J Tires for Bicycles, Motor Bicycles, Automobiles and Driving Wagons.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
421 Broome St., New York

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

FOR SALE—Two Lamson Motor Bicycles been used for samples only, good as new, \$200.00 machines. Price \$135.00. \$35.00 with order balance on delivery. Address Lock Box 463 Abington, Mass.

ROYAL MOTORCYCLE excellent condition. For sale \$85. cash. Mandeville 16 Stanhope St., Brooklyn, N. Y.

Elwell European Motorcycle Tour.

Summer of 1903.

Write F. A. ELWELL, 58 Prospect St., Waltham, Mass.

The Only Tires Fit For Motor Bicycles—

GOODYEAR DETACHABLES

GOODYEAR TIRE & RUBBER CO., AKRON, OHIO

ALL ROADS ARE EASY WHEN THE



STAR
BALL
RETAINER
IS USED.

With millions in daily use, it has stood the test for more than five years, and is adaptable to ball bearings of any kind.

If you are users of ball bearings we would be pleased to hear from you and mail you our catalog with the latest information, which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.

WANTED.

TO BUY JOB LOTS OF

Bicycles, Tires, Sundries and Fittings.

WRITE US WHAT YOU HAVE TO SELL.

E. P. BLAKE CO., 57 Sudbury St., Boston, Mass.

You all know what the diamond stands for among precious stones. You can't well afford not to know that

D-I-A-M-O-N-D-T-I-R-E-S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

The 1902 BRECKENRIDGE GAS LAMP

AND
The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY

THE NATIONAL CEMENT & RUBBER MFG. COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

ARNOLD, SCHWINN & CO.

CHICAGO.

WORLD BICYCLES.

Jobbing Wheels a Specialty.

LARGEST INDEPENDENT MAKERS IN THE COUNTRY.

Wolff-American Bicycles.

STEARNS BICYCLE AGENCY,
General Distributors,
SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

Claim.—1. In an electric cell the combination with an electrode of a receptacle containing depolarizing material and connected directly to said electrode, but having a recess on the side adjacent to the electrode, said recess being freely open to the electrolyte, and means for detachably securing said receptacle to the electrode, substantially as described.

707,872. Bicycle Driving Mechanism. George H. Spaulding, Chicago, Ill., assignor of one-half to George Niedermaier, Chicago, Ill.; Lois L. Spaulding, administratrix of said George H. Spaulding, deceased. Filed Mar. 30, 1900. Serial No. 10,745. (No model.)

Claim.—1. In a bicycle the combination with the frame, the speed gearing frame, the crank shaft or prime motor shaft having journal bearings in the speed gearing frame, said gearing frame being made rigid at the ends of said journal bearings with the bicycle frame; a gearing case having journals encompassing said journal bearings of said shaft and encompassed at its ends by the terminals of the bicycle frame; the speed train having its first wheel fixed on the crank shaft and its last wheel concentric with said shaft and fixed to said case, said gearing case being exteriorly constructed to operate as a wheel communicating power to the drive wheel.

707,922. Fuel or Other Reservoir for Internal Combustion Engines. Carl O. Hedstrom, Portland, Conn., assignor to George M. Hendee, Springfield, Mass. Filed Oct. 28, 1901. Serial No. 80,193. (No model.)

Claim.—1. The combination with the rear wheel fork of a motor cycle, of a reservoir located on each side of said fork, longitudinally of the machine, and means for securing said reservoirs one to the other, and whereby they may be securely clamped to the said fork, both of said reservoirs having an outlet one side of the vertical centre of the rear wheel, the outlet of one reservoir passing through the other reservoir.

707,923. Chain Adjusting Device for Motor Vehicles. Carl O. Hedstrom, Portland, Conn., assignor to George M. Hendee, Springfield, Mass. Filed Oct. 28, 1901. Serial No. 80,195. (No model.)

Claim.—1. In combination with the crank hanger of a motor cycle, a hub eccentrically supported thereon, one end of which projects beyond the end of said hanger, and means for rotatably adjusting said hub; and one or more sprocket wheels loosely mounted on said projecting end of the hub.

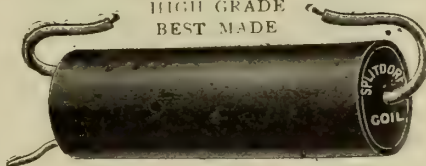
707,944. Two Speed Driving Mechanism. Francis L. Sanders, Nottingham, England. Filed July 21, 1902. Serial No. 116,407. (No model.)

Claim.—1. The combination with a driving axle and a crank fixed thereon, of a cylindrical journal block grooved on one end to straddle the crank eccentrically to the axle and secured to the crank, a roller clutch on the periphery of the journal block, a collar rotatable on the axle, a ratchet wheel and gear wheel rigid on the collar, a sprocket wheel rotatable on the collar and provided with an internal gear, an intermediate gear wheel rotatably mounted on the journal block and held against rotation thereon in one direction by said clutch, a pawl arranged to normally hold said ratchet wheel against rotation, and means under the control of the operator for throwing and holding the pawl out of engagement with the ratchet wheel, substantially as described.

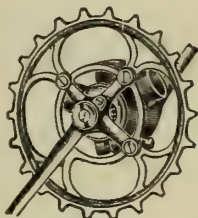
"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

SPLITDORF SPARK COILS.

HIGH GRADE
BEST MADE



C. F. SPLITDORF, 17-27 Vandewater St., New York



"D. & J." HANGERS

FOR
Single,
Tandem,
Triplet,
Quad and
Motor Cycles.

ABSOLUTELY THE BEST
—
Lightest, Nearest Dust Proof, and
Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

"PERFECT"



OILER.

For High Grade Bicycles. The best and neatest Oiler in the market. DOES NOT LEAK. The "PERFECT" is the only Oiler that regulates the supply of oil to a drop. It is absolutely unequalled. Price, 25 cents each.

We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK

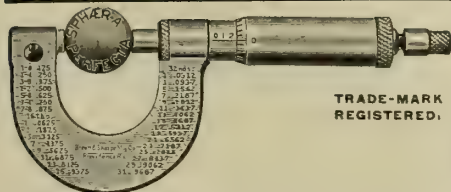
Have
YOU
ever heard
a
really sound reason
why
bicycles
should not be
equipped
with
**Cushion
Frames**
???

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.



TRADE-MARK
REGISTERED.

STEEL BALLS

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

- That every ball is a perfect sphere.
- That every ball is within 1-10,000 of an inch of exact size.
- That the balls are made of the best quality of true crucible tool steel
- That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

"MOTORCYCLES AND HOW TO MANAGE THEM"

REVISED EDITION

BOUND IN CLOTH

The only Book of the Sort in Existence

CONTAINS A MINE OF VALUABLE
INFORMATION

PRICE, ONE DOLLAR

THE GOODMAN COMPANY

123-125 Tribune Building, - New York City

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway • New York 435 Vine St., • Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburgh
388 Washington St., Boston 234 Superior St., Cleveland
301 Main St., • Buffalo 17 Campus Martius, Detroit
212 Clark St., • Chicago 2 King St., East, Toronto, Ont.



The Authority of the Cycle World

RELIABLE NEWS

— ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.

Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Through all Bookshops and Newsagents or from the
Publishers

ILIFFE & SONS Limited,

3, St. Bride Street, London, E.C.

and HERSTON STREET, CHESTER

THE BICYCLING WORLD

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect June 15, 1902

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	3.15 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars
running through to Chicago.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines. A. H. HANSON, G. P. A., Chicago

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,

49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, September 11, 1902.

No. 24

GREAT WESTERN ABSORBS

Sherman and Manson of Chicago are Taken Over by La Porte Concern.

Out from the West comes the announcement that the Sherman Cycle Co., of Chicago, has been absorbed by the Great Western Mfg. Co., of La Porte, Ind.

The Sherman Cycle Co., while never making very much noise, was considered one of the "cleanest" of Chicago's many small concerns, and it survived them all. At the time of the disastrous failure of the spectacular Manson Cycle Co. it purchased the goodwill, name plate, etc., of that ill-fated concern, and since then has assembled Manson bicycles in addition to its own line. The total output was small.

It will be remembered that the Great Western Mfg. Co. is itself an amalgamation of the bicycle business of the Adams & Westlake Mfg. Co., makers of Adlake bicycles, the John Lonn & Sons Co. and the David Bradley Co., makers of the Crown and America bicycles, respectively. With the Sherman and Manson added to these, the list of name plates of the Great Western company will be even more extensive than it was previously.

Is Ready With its Defense.

The suit brought against it by the G. & J. Tire Co. did not come in the nature of a surprise to the Diamond Rubber Co. For months it was expected that action against more than one concern would be brought, and the Diamond company therefore had plenty of time to prepare a defense. Their legal representative is C. K. Olfield, of Olfield, Towle & Linthicum, Chicago, and he will have charge of the conduct of their suit. They promise to extend to their customers full protection in the matter.

Advance in Steel Balls.

It is on the cards that the prices of steel balls are about to undergo a marked change. A sharp advance is looked for by well informed persons. In line with this belief is the news that all outstanding quotations on steel balls have been withdrawn for the present.

Further Receivers Appointed.

There have been practically no new developments in the affairs of the American Bicycle Co. the last week. The reorganization committee have held several meetings, and every effort will be made to reorganize the company at the earliest possible date, both in the interest of the bond and stock holders. Expert accountants are now at work on the books of the company, and as soon as their work is finished an official announcement will be made to the security holders. Auxiliary receivers have been appointed in various States where the company holds property. In Connecticut the courts have appointed Arthur L. Shipman, of Hartford, in conjunction with R. L. Coleman and Colonel A. A. Pope. In New York State Frank J. Webb, of Syracuse, has been appointed, with Messrs. Coleman and Pope. The United States District Court of Chicago has appointed Messrs. Coleman, Pope and Miller receivers for the property in Illinois and Wisconsin. A receiver will also be appointed in Ohio.

New York Jobbers Program.

The New York State Association of Jobbers of Bicycle Supplies announces the following programme for their meeting at the Ten Eyck, Albany, N. Y., on September 16 and 17: On the morning of the 16th there will be a session of the jobbers' association at 10 o'clock, and an afternoon session at 2:30 o'clock. At 9 a. m. on the 17th there will be a joint meeting of the association and representatives of manufacturers of bicycle sundries, at which matters of mutual interest will be discussed. This will be followed by a meeting of the association in the afternoon. Indications point to a very large attendance, as most all manufacturers of accessories will have representatives present.

Mannesmann Affairs Still Linger.

The condition of the creditors of the Mannesmann Cycle Tube Works, that North Adams, Mass., concern which made such a mess of the tubemaking business, has been slightly improved at the expense of one of their number. The claim of the town for unpaid taxes has been cut down from \$15,016.53 to \$4,602. The threat is made, however, that the case will be carried to a higher court.

TIRE WAR INAUGURATED

G & J Want Injunction Against Diamond —Detachable Tire Bone of Contention.

Storms have been brewing in the tire world for some months, and last week one of them burst, and as a result two well known concerns are at loggerheads. The initiative was taken by the G. & J. Tire Co., Indianapolis, Ind., which brought suit against the Diamond Rubber Co., Akron, O., for alleged infringement of the well known G. & J. Tire patents. An injunction and an accounting is asked for.

The action grows out of the manufacture by the defendant company of a detachable form of tire, a tire similar in many respects to that produced and marketed by the plaintiffs. The latter is attached and detached by mechanical means, being provided with beaded edges, which engage with a rim shaped especially to receive them, and are so held in position by the air pressure that no cement or other fastening appliances are required. From its ease of repair, consequent upon this method of attachment, this type of tire has entered into extensive use in the automobile trade.

The papers in the case are dated August 28, and are returnable on the first Monday in October in the Circuit Court of the United States, Southern District of New York. They bear the signature of the G. & J. Tire Co., by Harold O. Smith, vice-president and treasurer. Ernest Hopkinson, of this city, is counsel for the complainants.

It is set forth in this bill of complaint that Thomas B. Jeffery invented and patented what afterwards became known as the G. & J. tire, in 1891; that he subsequently took out four more patents on tire improvements, and that one Golding, an Englishman, did the same on a somewhat similar tire. Subsequently all these patents were acquired, after several changes of ownership, by the G. & J. Tire Co. The act of the Diamond Rubber Co. in making a tire alleged to infringe the G. & J. is then recited, together with the fact that the said company was expressly warned not to do so. After recounting the losses the G. & J. Tire Co. suffered in consequence of such action, the court is

prayed to compel the Diamond company to make an accounting of the tires it has manufactured and sold, and also to grant an injunction restraining it from continuing to so make and mark the alleged infringement.

The bill of complaint then says:

To the Honorable the Judges of the Circuit Court of the United States, in and for the Southern District of New York:

The G. & J. Tire Co., a corporation organized and existing under the laws of the State of New Jersey, and a citizen of said State, having its principal place of business in Jersey City, in said State of New Jersey, brings this its bill of complaint against the Diamond Rubber Co., a corporation organized, incorporated and existing under the laws of the State of West Virginia, and a citizen of the State of West Virginia, and having an office or place of business in the city of New York, in the State of New York, within the Southern District of New York, and Orrin J. Woodard, a citizen of the State of New York, residing in the city, county and State of New York and an inhabitant of this district,

After giving further details regarding the defendant company, the bill continues:

II. Your orator further shows unto your honors that heretofore and before the 26th day of March, 1891, one Thomas B. Jeffery, residing in the city of Chicago, county of Cook and State of Illinois, became and was the true, original, first and sole inventor of new and useful improvements in wheel tires, not known or used in this country and not patented or described in any printed publication in this or in any foreign country before his invention or discovery thereof, and not in public use or on sale for more than two years prior to his application for letters patent of the United States therefor, and which had never been abandoned.

It then goes on to relate how the said Jeffery made application for and was granted a patent on this "improvement in wheel tires," the patent issued being dated June 16, 1891. Also how he invented successive improvements and was granted patents on them, under dates of January 5, 1892; January 12, 1892; July 17, 1894, and April 28, 1896; and that William Golding, of Manchester, England, on October 6, 1891, also made application in this country for patents on certain "new and useful improvements in rubber tires," and that under this application patents were issued to Charles Macintosh & Co., Ltd., Manchester, England, to whom Golding had made assignment of his claim, the date of issuance of this patent being March 7, 1893.

Continuing, the bill relates circumstantially how all the patents were acquired by the Gormully & Jeffery Mfg. Co., Chicago, Ill., and then, during, 1900, by the Rubber Goods Mfg. Co., and finally by the G. & J. Tire Co.

All this having been made clear, the bill proceeds as follows:

XIII. And your orator further shows unto your honors that for many years last past it and its assignors have been engaged in the manufacture and sale of vehicle wheels and tires embodying the improvements or inventions described and claimed in said several letters patent; that for many years prior to the purchase and acquisition by it of the en-

tire right, title and interest in and to the said several letters patent vehicle wheels and tires embodying the inventions of said several letters patent were manufactured for its predecessors in interest and title, namely, the Gormully & Jeffery Mfg. Co. and the Rubber Goods Mfg. Co.; that since your orator became the sole owner of the said several letters patent it has continued the manufacture and sale of vehicle wheels and tires embodying the improvements or inventions described and claimed in said several letters patent on its own behalf, and at the present time is engaged in such manufacture and sale and has a large and profitable business therein; that prior to the purchase and acquisition by your orator of the said several letters patent aforesaid, its predecessors in title and interest, the Gormully & Jeffery Mfg. Co. and Rubber Goods Mfg. Co., invested large sums of money in developing, manufacturing and selling said vehicle wheels and tires, and in advertising, exhibiting, introducing and making known to the public and establishing a market for said vehicle wheels and tires, and that your orator has continued said investments for said purpose, and that the vehicle wheels and tires made as aforesaid by your orator on its own behalf since its acquisition and purchase of the said several letters patent and prior thereto on behalf of its predecessors, the Gormully & Jeffery Mfg. Co. and Rubber Goods Mfg. Co., have become known and in general and common use throughout the entire United States, so that there is a great demand for the same; that your orator has been and now is able and ready and desirous of supplying the demand for said vehicle wheels and tires at a fair and reasonable price.

XIV. And your orator further shows unto your honors that the said improvements or inventions described and claimed in said several letters patent have been and are of great utility and value, and of great benefit to the public, and the public has generally acknowledged and acquiesced in the value thereof and in the exclusive rights secured by the said several letters patent, and your orator believes it will realize and receive large gains and profits from said improvements or inventions if the respondents shall be enjoined from continuing their infringement of the said several letters patent.

XV. Your orator further shows unto your honors that it has, both on its own behalf and on behalf of its predecessors in title and interest, given notice to the public that vehicle wheels and tires embodying the improvements or inventions described and claimed in the said several letters patent Nos. 454,115, 466,565, 466,789, 493,160, 523,314 and 558,956 were patented by affixing on each of such vehicle wheels or tires made and sold since the issuance of the said several letters patent, the word "Patented," together with the date on which said several letters patent were granted, in strict compliance with the requirements of Section 4,900 of the Revised Statutes of the United States.

XVI. And your orator further shows unto your honors that the improvements or inventions in vehicle wheels and tires which constitute the subject matter of the said several letters patent Nos. 454,115, 466,565, 466,789, 493,160, 523,314 and 558,956 are capable of conjoint use and operation in one complete operative commercial structure, and have in fact been so conjointly used and embodied by your orator in the vehicle wheels and tires made and sold by it and by said respondents in the infringements herein complained of.

XVII. And your orator further shows unto your honors, on information and belief, that since the grant of the said several letters patent, both before and since your orator became the sole and exclusive owner of the entire right, title and interest in and to said

several letters patent,, and before the filing of this bill of complaint, and at divers times between the date of the grant of said several letters patent and the filing of this bill of complaint, the respondents, well knowing the facts herein set forth, but contriving to injure your orator and to deprive it of the benefits and advantages which might and otherwise would accrue to it from said several letters patent and the improvements or inventions therein described and claimed, have been and now are jointly making, selling and using, and have caused and are now jointly causing to be made, sold and used, vehicle wheels and tires embodying in conjoint use and operation the several improvements or inventions described and claimed in the said several letters patent in the city of New York, in the State of New York and Southern District of New York, as well as at Akron, in the State of Ohio, and elsewhere within the United States, without the license or consent of your orator, and against the will of your orator, and in violation of its rights, and in infringement of said several letters patent; and that the respondents, as your orator is informed and believes, intend and threaten to make, use and sell and caused to be made, used and sold, vehicle wheels and tires in this district and elsewhere within the United States, without the license or allowance of your orator, and against the will of your orator and in defiance of the rights acquired and secured under said several letters patent and to the great and irreparable loss and injury to your orator, and by reason thereof your orator has been and is now being deprived of great gains and profits which it might and otherwise would have obtained, but which have been and are now being received and enjoyed by the respondents, by and through their said unlawful acts and doings, and that your orator is unable to state how many of said vehicle wheels and tires the respondents have made, sold or used, or caused to be made, sold or used, or exactly when said infringement commenced, but it is informed and believes, and therefore avers, that the respondents have made, sold and used, and caused to be made, sold and used, a large number of said vehicle wheels and tires in infringement of said several letters patent, and that said infringement commenced within one year past, and prays discovery thereof.

XVIII. Your orator further shows unto your honors that the respondents have been duly notified of their infringement of said several letters patent, and have been requested to desist and refrain therefrom, and yet the respondents have continued after such notice to make, sell and use, and to cause to be made, sold and used, vehicle wheels and tires, in said Southern District of New York and elsewhere within the United States in infringement of said several letters patent, and still persist in doing said unlawful acts and in infringing said several letters patent, and have disregarded said notice and request and have refused to desist from infringing said several letters patent; and that said unlawful acts of the respondents and their disregard and defiance of the rights of your orator as aforesaid, have the effect to and do encourage and induce others to infringe said several letters patent and to disregard the rights of your orator.

All of which acts, doings and pretences are contrary to equity and good conscience and tend to the manifest wrong and injury of your orator in the premises.

XIX. In consideration whereof and forasmuch your orator can have no adequate relief, except in this court, where matters of this nature are properly cognizable and relievable, to the end therefore, that the respondents may, if they can, show why your

(Continued on page 608)

EXPLAINS THE ACTION

Use of French Chalk in Double Tube Tires Gives Free Road Movement.

Discussing the matter of applying liberal doses of French chalk between the inner tube and the outer casing of double tube tires, to which attention was recently called in the *Bicycling World*, an old time rider has this to say:

"I have never experimented with the conditions, but the thing seems reasonable enough, and the explanation simple.

"To secure speed and liveliness or resilience necessitates that the walls of a tire must be very flexible, even although the air inside be hard compressed. Now, if you take a number of sheets of paper and hold them in your hands you can easily bend them, the many thicknesses will slightly slide over each other to permit flexibility. But if you stick the sheets together you will make an unbending, harsh, unyielding, inflexible sheet of cardboard. It is the same to a less extent with india rubber. If the tube can move about independently of the cover, the walls of the tires will be easily flexible, but the more firmly you stick the two together the less flexible will the walls become.

"It may be objected that when a tire is pumped sufficiently hard for riding pressure the air presses the tube against the cover with such force as to make practically a single tube tire. It has been argued, too, that if the theory of the tube moving about inside the cover is correct, the result must be to shear the tube away from the valve; but I do not think that this follows, because movement may take place other than that kind of movement which is expressed by the word creeping. I mean that the air tube may move a little in one direction and immediately return to its former position; it does not necessarily continue moving in one direction.

"It might be thought that if the air tube can move at all it will necessarily creep round in one direction—in the direction in which it is pushed by the rolling movement upon the ground—but this again I think does not necessarily follow. It is not the whole of the air tube which moves, but only that part of it which abuts upon the tread of the cover. The piece of tube in contact with the piece of cover momentarily upon the ground would cause friction between the tube and fabric, but when lubricated with French chalk such friction is assuaged, and the tube contracts and recovers free from friction.

"The reason why such contraction does not cause the tube to creep is that the contraction only takes place where the tube is pressed inward by the tread of the tires—say, for at most one-fourth of its circumference, so that there are still three-fourths of its circumference in firm and unmoving contact with the sides of the cover and with

the rim, and these three-fourths of the circumference have sufficient hold to pull back the one-fourth of the tube into its normal position of circularity. I am speaking of the transverse circumference of the tube, not the longitudinal periphery."

Most Worthy Mayor.

When Mayor Seymour of Newark, N. J., makes up his mind, it stays made up, and he delivers himself in no uncertain tones. Called upon to approve or disapprove an automobile and motorcycle ordinance last week, he promptly returned it with his veto.

The ordinance provided that the speed of automobiles and motorcycles should be limited in the city to eight miles an hour, and four miles an hour when rounding corners.

"In my opinion," he said in returning the ordinance, "this is an unjust discrimination against the owners and users of automobiles, motorcycles and similar vehicles, and the fine sought to be imposed for a violation of the ordinance governing the speed of automobiles or other machines should be consistent with and equal to those imposed for a violation of the ordinance governing the speed at which horses, electric cars, etc., shall be driven or propelled through our streets.

"If it is sought to impose a heavier penalty on owners and users of automobiles, motorcycles, etc., because of the great danger to the public by reason of their reckless use on the streets, the most stringent measures should be taken by the authorities to compel the operators of these machines to keep within the limit of speed prescribed by law. In any event, if it is sought to protect our citizens in their use of the streets against fast driving of any kind, the penalties prescribed should be coequal and no discrimination made against one class of citizens in favor of another class."

The Mayor also finds the ordinance illegal, because it usurps a right of the State legislature in enacting a law providing for the registration of automobiles with the County Clerk, who is not a city officer.

Again the Kelecom.

Only a short time ago the Kelecom motor was introduced into this country by the sole agent, A. H. Funke, 98 Duane street, New York, and from the start it has proved to be an excellent machine. Its first public appearance was in the 100-mile endurance test of the Long Island Automobile Club, when a car went through with a perfect record.

On Labor Day a motor bicycle with a Kelecom motor was entered in the ten-mile race, and ridden by an amateur, who only received the wheel the day before. He came in second in a hair raising finish, with a record of 17 minutes 58 seconds for the ten miles, although the machine was in touring condition, with front and rear mud guards attached.

Probably the first woman to ride a motor bicycle in this country is the wife of G. N. Rogers, of Schenectady, N. Y. Both members of the "firm" ride diamond frame Royals.

AUSTRALIAN MARKET

Lack of Railroads Makes Good the Outlook for Motor Bicycles.

One of the oldest and best known dealers of Australia, W. P. Armstrong, of Armstrong's Cycle Agency, Perth, Western Australia, is now in England on a business trip. The Armstrong stores are among the most flourishing businesses in the cycle agency line "down under," and therefore Mr. Armstrong's views on the future of the motorcycle in Australia are worth attention.

It is over two years since he terrified the natives in his province by scouring the country on the first motorcycle seen in those parts, and since then Mr. Armstrong has sold a large number in various parts of Australia. For a country of such enormous distances, the motorcycle is an unquestionable boon. Mr. Armstrong has to travel over 2,000 miles to cover his various agents, and with the motorcycle he is able to get over the ground more quickly and do more business than he has hitherto been able to do.

The poor railway facilities make the possibilities of the motorcycle in Australia all the greater, and, encouraged by his success so far, Mr. Armstrong has made arrangements with several leading makers of motorcycles for a large supply of these machines for the ensuing season's trade. Some motorcycles which he sold nearly two years ago are still being used, and are running as well as ever. A testimony like this from such a prominent dealer as Mr. Armstrong points out the great possibilities of the motor bicycle in Australia.

New Long Distance Records.

A few long distance motor bicycle track records were recently set up in London when E. H. Arnott, on the Crystal Palace track on August 26, riding a $2\frac{1}{4}$ horse power machine, covered 212 miles in six hours, including all stoppages.

His first run, before refilling with gasoline, lasted 86 miles. Unfortunately, during the refilling one of the battery wires parted, and some 27 minutes were lost in locating the trouble. Just over 103 miles were covered without a stop before the next refilling took place. The intermediate century, from the eighty-seventh to the 187th mile occupied 2 hours 34 minutes and 50.25 seconds.

In this run 40 miles 300 yards were covered in the hour, and the best fifty miles time was 1 hour 14 minutes and 49 seconds. In all, the rider was dismounted for about 40 minutes during the six hours. His hour distances and times were as follows:

Hours.	Miles.	Yards.	Miles.	H. M. S.
1	39	580	50	1:15:44 $\frac{3}{4}$
2	78	585	100	3:00:30 $\frac{1}{2}$
3	99	1,170	150	1:20:14 $\frac{3}{4}$
4	136	985	200	5:11:41 $\frac{3}{4}$
5	176	760	Fastest 50	1:14:49
6	212	550	" 100	2:34:50 $\frac{1}{2}$



THE SAME OLD STORY.

PHILADELPHIA, PA.,
May 23, 1902.

NATIONAL CYCLE CO.,
BAY CITY, MICH.

GENTLEMEN:—In June, 1899, you sold me from the factory one of your \$60.00 wheels. There are plenty of cheap wheels for sale here, in fact, they almost give them away; but my experience with your wheels has been such that I would not think of looking further.

No. 15627 has been in constant use, averaging from ten to fifteen miles daily over all sorts of city streets, and all it cost me in repairs is: 35 cents for cone in pedal, 75 cents for two rods through front and rear hubs, 5 cents for two small balls, \$1.25 for new chain, and last spring two new Goodrich tires, the first ones having worn through the canvas, exploding only because of thinness. The wheel runs as easy as ever. This is a record hard to beat.

I do not know whether you have an agency here or not. If you can sell to me direct, please send circular of 1902 models. Yours truly, JOSEPH J. MAGIN.

A NATIONAL RIDER NEVER CHANGES HIS MOUNT.

NATIONAL CYCLE MANUFACTURING CO., - Bay City, Mich.

FISK TIRES.

BROOKLYN CONTEST Motor Bicycles, on Indian machines, secured First and four other places.

ST. LOUIS CONTEST, on same kind of machine, secured First in both 5 and 10 mile.

QUALITY===CONSTRUCTION===RESILIENCY

BEING THE MERITS THAT WON.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

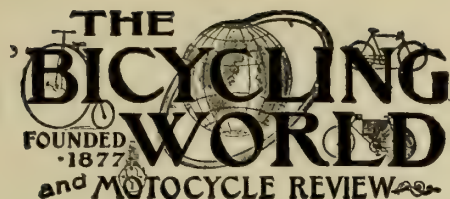
SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.



In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday
By
THE GOODMAN COMPANY,
123-125 Tribune Building.
(154 Nassau Street)
NEW YORK, N. Y.
TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] **\$2.00**
Single Copies [Postage Paid] . . . **10 Cents**
Foreign Subscription **\$3.00**

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but not for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, SEPTEMBER 11, 1902.

How Conditions Have Improved.

To those pessimists who are wont to maintain that the bicycle business has gone to the dogs, there is a retort ready at hand, provided one wants to make it.

It is that the weeding out process, the virtual reconstruction of the business, as it could be termed, is practically completed, and that it leaves the industry in better shape than it has been in for a number of years. Instead of having gone to the dogs, therefore, the business is really rehabilitated and offers distinct encouragement to those concerns that have weathered the fierce storms which in the past shook the business from end to end.

It has not escaped the eyes of keen observers that the overwhelming majority of those remaining in the field are there to stay; and, furthermore, that they are there because they deserve to be.

The halt, the lame and the blind, the sick ones, have all, or nearly all, passed away. Unable to longer withstand the stress and

strain incident to the struggles, they have yielded up the ghost and left the field clear for those made of sterner stuff. The latter, or all except an almost insignificant portion, understand the situation, have trimmed their sails to meet the changed conditions prevailing, and have no complaint to make.

There will still be, occasionally, withdrawals or consolidations.

Within a week or two there have been cases of this sort, and it is by no means improbable that there will be, from time to time, others to follow their example. But such occurrences need not cause any particular surprise, any more than it did the ones under notice. They have already been discounted.

Losing a Good Customer.

Even in these decadent days, when a dealer can, if he wishes, buy machines "sight unseen," just as the hardware dealer buys nails, it does not always pay to be too matter-of-fact, to bank too much on this lack of necessity for a critical inspection of new goods.

We have in mind the case of a salesman who last year lost a good customer simply because he presumed a little too far on this feeling.

He had his samples, in two trunks, of course, and he showed them, but in a perfunctory way that became more and more pronounced as his trip extended. There was no change to speak of in the machines, and the showing of them was really largely a matter of form, as even his customers might have admitted had the question been put to them in the right way.

Drawing near the end of his trip, he began to "double up" a little on his schedule, sometimes visiting two towns where he had been in the custom of touching only one in the same time.

One day he closed up with one dealer and began to wonder if he could not repeat the performance with another a short distance away. There was no railroad train that would get him there and back again—the place was off the main line—but by training one way and taking the trolley car the other he could make it all right.

Such a plan, however, necessitated a visit without his samples. They must be left where they were. Could he turn the trick without them? After thinking it over for a minute or two he decided to risk it.

Arrived at the store of his customer, he made his first mistake, an error in diplomacy. In an offhand way he remarked, by way of greeting, that he had left his trunks back at

So and So, knowing that Jones, his customer, would not need to see them. Continuing, and in order to bolster up his contention, he laid great stress on the fact of the machines being practically identical with last year's, and strove to close the deal on the strength of that fact.

Had he gone about it a little differently he might have won out without much trouble.

But he struck a discord right at the beginning by alluding to the dealer at whose place he had left his trunks. The second dealer could not see why he was not of as much importance as the first, and the displeasure thus caused was heightened by everything that was said subsequently. The lack of change was rather a sore spot with him, too, and altogether he was in a pretty dangerous humor.

The upshot of it was that he refused to give the traveler a positive answer, and the latter had to go off leaving the deal in an unsettled condition.

A few days later another traveler came along, and, by a few shrewd questions, getting acquainted with the facts, bent every effort to the task of swinging the dealer over to his, the traveler's, goods. In this he was successful, and the first traveler lost a valuable customer, just for lack of a little consideration.

Yet Another Field.

For the next few years the motor bicycle will furnish work for inventors' hands and brains, just as the motoless bicycle has done for a decade of years, and the results obtained will probably be quite as varied in this case as in the other. The archives of the Patent Office are filled with countless hundreds of wheeling ideas utterly worthless and impossible, offering mute testimony to the fact that the bicycle was a powerful magnet to the many who believed themselves gifted with inventive genius; causing them to see a straight and glorious pathway to wealth through the Patent Office—a pathway that led more often to bitter disappointment than to even partial success, so small was the average of meritorious and really useful inventions.

But the prospect of easily gained fame and fortune proved irresistibly attractive, and bicycle inventions piled up mountain high, to the benefit of few else than the patent department and the ceaselessly energetic patent solicitors, who make a splendid living out of what practically amounts to an insane desire to grow rich in a night.

Not all the bicycle patents were hopelessly

bad, however. Some were excellent, and a few undoubtedly made money for their authors, so that the retrospect is not altogether one of shattered hopes and ruined prospects. But no matter what the result of the motorless bicycle patent mania, the motor bicycle now comes forward presenting infinitely greater possibilities to the inventor than were afforded by its predecessor, and the outlook is that there will be an enormous and long continued rush toward Washington with ideas intended to perfect the motor bicycle and its various parts and accessories, and to bring handsome returns to their fathers.

It is to be hoped that the lessons afforded by the failure of many bicycle inventions will tend toward minimizing the number of worthless motor bicycle patents, although it would be far better for the world in general that the failures should run into the millions rather than that the motor bicycle should fall short of being what it promises to be through any fear on the part of any would-be inventors that their labors may be in vain. However, no such result as this is to be expected when nearly every crossroads town supports its patent solicitor, whose vocation is to wring gold from the pockets of the credulous ambitious.

Uses of the Wheel.

A dozen years ago a good bicycle cost as much as a horse, and if the purchaser of the latter was not too particular he might have added a buggy or delivery wagon and harness to the equine at a total cost but little more than that of the two-wheel machine.

At that time bicycles were luxuries, made use of by persons of sporting proclivities, and occasionally by those in search of exercise or of a sedate and decorous pleasure. To view the machine as a business vehicle would have been about the last thing to suggest itself.

How complete the change has been since then is a matter of common knowledge.

With the enormous fall in prices the clientele of the bicycle has undergone a complete change, and the uses made of it as well. While cycling remains also a sport and a pastime, those who pursue it in this manner now form a minority. It is a respectable minority, to be sure, but none the less is quite overshadowed by the aggregate of those who use the wheel for business purposes.

There is scarcely a town or village in all the land where the bicycle is not in constant

use. It affords a ready and rapid means of transportation between nearby points—one that is positively unapproachable by either the horse and wagon or the trolley car, ubiquitous and convenient as the latter is.

In point of cost it maintains a like superiority. Even when new, the price is admittedly reasonable, while seconds hands—such as are good for hundreds or even thousands of miles of service—are to be had at nominal figures.

Touching on this aspect of the matter, a business man gave eloquent testimony in behalf of the bicycle in a recent conversation:

"Out of curiosity the other day I made a few inquiries about the use of the bicycle by a gas company in a country town, impelled thereto by the sight of a number of these machines," he said.

"Very much to my surprise, I learned that the company, no less than the men, considered the machine almost indispensable. There are about half a dozen of them, all

"As I do not wish to lose a single issue of your valuable paper, I hasten to inclose my check for another year's subscription. I had no idea until I had tried it that your paper could be so valuable to the trade in general.

"F. A. BUTLER, Danvers, Mass."

owned by the company and used for company's business. Each one is placed in charge of one of the inspectors, who is held accountable for their reasonable use and care. This system is found to be an improvement over the former one, where the men owned their own machines.

"On the last day of the month the men start in to make meter inspections. It is important that the work should be done with dispatch, and the men work at pretty high pressure getting through their rounds.

"It is a country town, and a great many of the meters are in houses some distance from the gas works. They are widely scattered, too, and a lot of ground has to be covered in getting around. With their bicycles the inspectors are able to make as high as 100 inspections in a day, and at this rate it does not take very long to cover the territory. In no other way could anything like these results be obtained. The wheel is pre-eminent. It is ridden up to a house, left at the curb, the meter inspected, and the man is off for the next place. No time is wasted, no money spent."

The case referred to is but one of thousands. More and more the bicycle is being recognized as being in a class of its own. If the mileage of many of the machines in daily

use could be calculated, it would reach a staggering total—such a total as was recorded only by the big riding clubs half a dozen years ago when century runs were all the rage.

Cushion Frame Racing Value.

It has at times been the claim of some who have given the matter thought that in road racing the use of a cushion or spring frame bicycle would mean faster time than the use of a rigid frame machine, because every jolt avoided would mean a saving on the nerve system. As racing energy, just as in all other energy, must be at the expense of nerve force, it appears a reasonable premise that every item of nerve force saved in one direction can be utilized in another; therefore if the nerve centre is not disturbed by constant jarring at the saddle, it can give off more energy at the pedals.

Whether or not there is enough jar in track riding may be a nice question, but in England the makers of a spring frame have had faith enough in the road racing end of the theory to send a well known road racer over a favorite and trying course of 104 miles. The record for this course was 5 hours 50 minutes and 23 seconds, which has stood assaults for two years. In the spring frame attack of two weeks ago the record was reduced 20 minutes and 1 second to 5 hours, 30 minutes and 22 seconds.

How Much Per Mile?

The bicycle is not only a means of recreation and pleasure; to many persons it is a labor saving and time saving machine. A rider who makes daily use of one declares, however, that it costs more to ride on a bicycle than it does to ride on a trolley car. He adds up the amount paid for repairs in the course of a year, including 4 per cent interest on the original cost of the bicycle, and divides the sum obtained by the number of miles indicated by his cyclometre.

The answer is always over two cents per mile ridden. The exercise is pure profit, and the rider in question considers it a fair dividend on the investment. It is but fair to say that he, though a careful rider, weighs 200 pounds and a little more. It is probable that a man weighing 140 pounds could ride a bicycle at an expense considerably less, possibly as low as one cent a mile. But the profit is the fun and the fresh air, which are cheap at three cents a mile.

The bicycle is now being called into use for organized missionary tours in Ceylon.

FAST OR SLOW

Study in Physics on the Effects That Speeds Have on Falls.

In no section of physics are the results at first so confusing as in the effects of falls on individuals, where the height fallen from and the speed at which they are projected vary very considerably, is the conclusion of a writer who has been giving the matter thought.

Continuing he says: "Recently, at Paris, in a motor cycle match, a tire burst whilst the rider was travelling at forty-four miles an hour. The tire caught in one of the wheels, and both rider and machine turned a somersault. The forcer was flung to a considerable distance, and came down with a dreadful thud on the hard cement; yet almost immediately he picked himself up, and it was found that, beyond a few bruises, he was unhurt. So little affected was he that he was able to resume riding.

"Now if the average cyclist on the road falls whilst he is travelling at ten or twelve miles an hour he is often seriously injured, and many fatal accidents have happened where the speeds were still less.

"In the recent motor race some of the cars were smashed up when travelling at over fifty miles an hour, and though the motorists were thrown to enormous distances none of them were badly injured. The only fatality occurred to a man driving a slow tourist car which had nothing to do with the race.

"In such speed contests it has become almost an established theory that it is safer to fall when travelling fast than when travelling slow. In the former case the victim is flung in a kind of parabolic curve, and generally has time to double over before striking the ground.

"He thus comes down on his shoulders something in the manner of a short rabbit. In a collapse at slow speed one generally falls head downward, and some insufficiently protected part of the brain box gets the full impact.

"Therefore, it is that falls from cars, trams, and slow moving trains are often attended with far more serious results than those from express trains, motor cars and racing bicycles. Similar falls when racing on the old ordinary were not so serious in these results as falls from the latter-day safety.

Motor Bicycle Vaporizer.

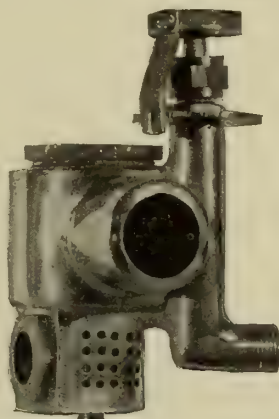
In addition to the float feed vaporizer suitable for motors from $3\frac{1}{2}$ to 40 horsepower, A. L. Dyke is placing on the market the bicycle vaporizer here shown. The device is purely a mixing valve. It is so constructed that no parts can jar loose or in any way to cause trouble.

The reason given by its maker for making the device without a float is very simple. Bicycle motors are generally high speed motors, and the variations in speed are gov-

erned by shifting the ignition, the vaporizer furnishing a steady or fixed supply of gasoline. This fixed supply must, however, in order to give full power to the engine, be dry, and not raw gasoline.

This mixture is obtained by giving the exact amount of air and properly proportioning the gasoline inlet, and these are the features of the Dyke bicycle vaporizer.

Engines from 4 to 40 horsepower are generally medium speed, and frequently governed by throttling the amount of admitted gas. This being the case, a very sensitive admission of raw gasoline to the vaporizer is necessary. On Dyke's float feed carburetters, in addition to the float, there is a



lever for controlling the gas supply to the combustion chamber.

The bicycle vaporizer is made for engines from 1 horsepower to $3\frac{1}{2}$ horsepower. The No. 2 float feed carburettor is made for engines from 4 horsepower to 12 horsepower, and the No. 3 for engines from 12 horsepower to 40 horsepower. Detailed information will be willingly forwarded by the maker by addressing him at 1,402 Pine street, St. Louis, Mo.

Effects of Loose Bearings.

Nothing tends to spoil the easy running of a machine more than a shaky bracket bearing; it sets up a slight rocking motion of the crank axle, which is conveyed to the chain wheel, resulting in the chain being constantly pulled out of line, causing unnecessary friction and wear. A loose bracket also increases the pedal vibration, which is intensely accentuated when the road is at all rough, or in riding over cobbles. The tendency of these bearings is to wear at the points where the pressure is greatest upon the pedals, with the result that when they are run loose for any length of time they are apt to wear oval and cannot afterward be properly adjusted.

Through Sleeping Car Line to Grand Rapids, Mich.

A Pullman Sleeping Car of latest construction is now attached to New York Central train leaving Grand Central Station at 4:00 p. m., daily, running through over the Michigan Central, arriving at Grand Rapids at 12:55 p. m., next day, connecting in Union Station for all points in Western Michigan. For information and sleeping car reservations inquire of New York Central Agents.

WORKING CREDITS

Shopping Around Indulged in to Cover Small Bank Accounts.

The great anxiety to do business, the jealousy of each other and the natural cupidity inherent and inborn in all of us, has brought about a state of affairs that is anything but complimentary to those who indulge in it, remarks D. H. Kirkland, of the Credit Men's Association.

It never did take a great deal of money to start a store, and it takes less now than ever before—credit is too cheap, and its increasing cheapness requires additional safeguards in the shape of more accurate detailed knowledge of the special conditions. Every day we show evidence of history repeating itself. On every side we hear the old story of going into business with a few hundred dollars and by the end of the year owing several thousand dollars, with most of the assets outstanding. Once a retail merchant's capital is on his books, it is only a question of time for him to go under, as he can never figure on prompt collections, but is always asked to meet his maturing bills. For a little while he may manage to buy from B when his line with A is full, but in the course of a little while he becomes slow with B and must transfer to C, and so on down the line until his reputation for slow pay is established, and then his doom is sealed; it is only the question of what jobber or jobbers will be the victim and to what extent.

These results are of simple explanation. It is the same the country over. A retailer need never refer to a jobber; all he needs is to let an overzealous salesman know from whom he buys his goods, and the balance can be safely left to the salesman. The reasoning in the majority of cases is about as follows:

"If A can carry this account, why cannot I carry it? Why should I bring the fact to A's attention that his customer is about to divert his trade to me?"

Discretion, secrecy, diplomacy, if you please, is looked upon as a sound business doctrine. Information instead of being freely circulated is withheld, and sooner or later comes to the surface the startling intelligence that a bankrupt has been buying from a dozen different jobbers, has victimized them all, has had credit extended to him beyond all reason and beyond anything to which he was ever entitled.

Fifty-Eight an Hour.

A 14 horsepower motor tricycle, in charge of the sprinter, Marius Thé, covered the distance of 300 metres on the Paris Buffalo track in 11 3-5 seconds. The speed amounts to 93 kilometres 10.3 metres—58 miles an hour—and is record speed for motor tricycles.

TIRE WAR INAUGURATED.

(Continued from page 600.)

orator should not have the relief hereby prayed, and may, according to the best and utmost of their knowledge, remembrance, information and belief, full, true, direct and perfect answer make to the premises and to all of the several matters hereinbefore stated, charged and alleged, as full and particularly as if interrogated as to each and every of said matters, but not under oath, an answer under oath being hereby expressly waived; and may be compelled to account for and to pay to your orator the profits, gains and savings by them acquired and the damages suffered by your orator from said unlawful acts, and to account for and pay over to your orator all such profits, gains and savings as have accrued and arisen to or been earned or received by the respondents or to which your orator may be entitled by reason of the aforesaid unlawful making, selling and using by the respondents of vehicle wheels and tires embodying the improvements or inventions described and claimed in said several letters patent; and all such gains and profits as your orator would have received but for said unlawful acts and doing of the respondents.

Wherefore your orator prays:

1. That the respondents may answer the premises, but not under oath, an answer under oath being hereby expressly waived.

2. That the respondents and their servants, agents, attorneys and employees, and also the officers of the respondent the Diamond Rubber Co., may be enjoined perpetually, and also during the pendency of this suit, from infringing said several letters patent.

3. That the respondents may be compelled to account to your orator for all vehicle wheels and tires which they have made, sold and used, and which they have caused to be made, sold and used in violation of the exclusive rights secured by said several letters patent, and in infringement of said several letters patent; also for all moneys received therefrom and thereby, and all profits and gains made or derived by the respondents therefrom and thereby; and may be decreed to pay over to your orator any and all profits, gains and savings made or derived by the respondents from the manufacture, sale and use of all vehicle wheels and tires which they have made, sold or used, or caused to be made, sold or used, in violation of the exclusive rights secured by said several letters patent, together with all damages recoverable by your orator by reason of said unlawful acts of the respondents.

4. That the respondents may be decreed to pay the costs of this suit.

And for other and further relief may it please your honors to

1. Writs of subpoena of the United States of America in due and usual form and under the usual penalties, directed to the respondents the Diamond Rubber Co. and Orrin J. Woodard, and commanding them to appear and answer to this bill of complaint, but not under oath, an answer under oath being hereby expressly waived; and to abide by and perform such order and decree in the premises as to the court shall seem meet and shall be required by the principles of equity and good conscience.

2. A writ of injunction restraining the respondents and also their clerks, servants, agents, attorneys, confederates and employees and also the officers of the respondent the Diamond Rubber Co. during the pendency of this suit, from making, selling and using in any and every manner vehicle wheels and tires embodying the improvements or inventions described and claimed in said several letters patent, and from infringing said several letters patent in any and every manner whatsoever.

3. A writ of injunction restraining the respondents and also their clerks, servants, agents, attorneys, confederates and employees and also the officers of the respondent the Diamond Rubber Co. perpetually from making, selling and using in any and every manner vehicle wheels and tires embodying the improvements or inventions described in said several letters patent and from infringing said several letters patent in any and every manner whatsoever.

All duly sealed and attested in due and usual form, and under the usual penalty and directed to the respondents the Diamond Rubber Co. and Orrin J. Woodard.

4. And such other and further relief as equity may require and to your honors may seem meet.

Yale's Winning Ways.

In these days of fast times and gruelling finishes on the track, it takes not only good men, but the very best of construction in the bicycles which they ride. It is because of this that the Yale bicycles, made by the Kirk Mfg. Co., Toledo, O., just about fill the bill, such men as Hurley, in the amateur ranks, and Joe Nelson, in the professional class being prominent examples.

Perhaps nothing better illustrates Yale quality than the results of the national amateur championship races held in Hartford, Springfield and New Haven, where out of the eighteen medals given as prizes, seventeen were won by riders of Yale bicycles. A further Yale victory was in the Metropolitan championship, where Marcus Hurley finished first and Teddey Billington second, both on Yales.

Another feather in the cap of that make of bicycles, if bicycles wear caps, other than dust caps, in which to place a feather, is the record breaking ride of Joe Nelson, who recently put up a new set of competition records from two to twenty miles.

Uses Motocycles to Boom Town.

On the north coast of France there has recently sprung up a new seaside resort, known as Deauville, that has an enterprising mayor who has taken advantage of the popularity of motor vehicles of all kinds to boom his town. As a part of his ideas, there was held kilometre trials for all classes, on August 26. The course was along the shore front and about 600 yards was given to get up speed. Motocycles were divided into three classes. Motor bicycles weighing up to 66 pounds, motor bicycles up to 110 pounds, and bicycles or tricycles weighing between 110 and 550 pounds.

In the first class a 2 h. p. bicycle ran the distance in 49.3-5 seconds. The time for the second was 43.1-5 seconds, with a 5 h. p. motor. The third category was won by a tricycle fitted with an 8 h. p. double motor.

He was a Bouncer.

A 16-months-old Binghamton baby recently fell from a third story window, landed on the tire of a standing bicycle, bounced off and resumed the eating of a cracker started on before his escapade. Doctor reports he wasn't hurt.

Thomas Co. to Increase.

Finding it impossible to meet the demand for the Buffalo automobiles with their present facilities, the E. R. Thomas Motor Co., Buffalo, N. Y., has just completed arrangements whereby both the capital and the plant will be materially increased. A large interest in the concern has been acquired by D. Miller, a Chicago capitalist and first vice-president and director of the great Burlington Railway system. The paid up capital is now \$387,500, which will be increased as fast as required.

The works of the company will be immediately enlarged, and the output of the factory will be increased to 1,500 automobiles and 1,000 motor bicycles per annum, and the factory will be among the largest of its kind in the country.

The experimental stage has been passed, crude stock is already on hand and the works are now being operated full force on the 1903 output. The company hopes to have 750 automobiles and 500 motor bicycles complete before the opening of the season so that agents may rely on a full supply.

On October 1 the Buffalo Automobile and Auto-Bi Co. will be absorbed by the E. R. Thomas Motor Co., and the product will be marketed by the latter company, who will make every part of the automobiles and motor bicycles except the tires and batteries, thus insuring the very highest efficiency in every particular.

The Week's Exports.

Azores—1 case bicycle material, \$10.

British Guiana—5 cases bicycle material, \$365.

British West Indies—26 cases bicycles and material, \$769.

Bremen—1 case bicycle material, \$21.

British Australia—149 cases bicycles and material, \$5,043.

Brazil—1 case bicycles and material, \$97.

British East Indies—3 cases bicycle material, \$180.

Chili—2 cases bicycles and material, \$95.

Dutch Guiana—1 case bicycle material, \$64.

Genoa—46 cases bicycle material, \$2,026.

Hamburg—1 case bicycles, \$30; 22 cases bicycle material, \$911.

Glasgow—3 cases bicycles, \$90.

Havre—1 case bicycles, \$19.

London—4 cases bicycles, \$140; 25 cases bicycle material, \$1,013.

Liverpool—100 cases bicycles, \$2,260; 8 cases bicycle material, \$157.

Malta—9 cases bicycles, \$360.

New Zealand—203 cases bicycle material, \$7,970.

Portuguese possessions in Africa—3 cases bicycles, \$179.

Rotterdam—7 cases bicycles, \$380.

Southampton—9 cases bicycle material, \$400.

Tasmania—4 cases bicycles and material, \$203.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York.

WATCHING CREDITS

Rapidly Increasing Trade Must not be an Excuse for Abuse of the System.

The increasing necessity for closely watching credits is unquestionably attributable to the fact that the merchant of to-day is a man of progression and expansion, constantly seeking new markets for his output among dealers whose responsibility is an unknown quantity, says Frank L. Odell. This trade is essential for the life of his business, but he cannot afford to incur excessive loss and must familiarize himself with the standing and character of his would-be customers.

Credit must be extended, for this system has obtained an everlasting grasp upon trade, but in many instances the system is being abused, allowing the small dealer to operate largely on his creditor's capital. At times this proves advantageous to both parties; securing a good customer for the seller and permitting a man of limited means to build up a little business by persistency and self-denial, placing himself eventually upon a substantial and independent basis. On the other hand, the debtor who does not appreciate the assistance which he is receiving becomes neglectful, allows himself to drift, and the harm which his leniency has done reveals itself to the creditor in the bankruptcy court when his schedule is filed. Therefore, everlasting diligence is necessary.

I am of the belief that it is only a question of time when the merchant must face the problem of extending credit to the foreign customer. So far credit in that quarter has been denied and export trade has been confined to a cash basis, but this cannot continue, and why should it? We, as a nation, are seeking the markets of the world, and rightfully, for we have the raw materials, the skilled labor, the capital and capacity to meet the merchants of the world in competition. But if we secure their trade, why should not the foreign merchant, who is substantial and reliable, without question receive the same consideration as the domestic customer, or why should the wealthy foreign buyer be required to pay cash when many domestic buyers of doubtful responsibility are extended credit.

This undoubtedly is largely owing to the lack of proper facilities for acquiring accurate foreign information, but this will be remedied, and sooner or later this question will present itself for the consideration of the American merchant.

The banker is fast realizing the importance of the credit department and the necessity of possessing accurate information concerning the depositors and borrowers of his bank. This is developed by the fact that nearly every large bank is organizing such a department.

Now, let us see what are the essential points to be considered by the credit man when he is called upon to open a new ac-

count. First, the prospective debtor is asked to make an open exhibit of his capital, showing in what form his resources are represented, from which his net worth is determined, after allowing for shrinkage and increase in liabilities, from unforeseen debts which always materialize in case of business reverses. This is only one of the many points to claim attention.

His past record must be investigated; also his habits, attentiveness to business and his experience in the line he is pursuing. Competition in the locality where he is situated is a vital matter, and one of the most important is his producing capacity. He must be a man who can secure and hold trade, who is possessed of sufficient executive ability to understand and grasp every detail; his methods must be progressive and up-to-date, or he may be the victim of dry rot. His margins of profit must not be overlooked; or his business and private expenses; if he



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

is properly protected by insurance and if the surroundings would indicate progress in his line, or the trade to which he caters is likely to increase. The last and most important is his reputation for liquidating his accounts. This shows to what extent he is entitled to consideration.

The buyer of to-day who is unable to avail himself of discounts is certainly handicapped and cannot advantageously meet the competition which confronts him. A dealer in ordinary lines should move his stock two or three times a year, and if he avails himself of discounts he realizes from this 10 to 20 per cent. If his capital is not sufficient to permit him to discount and his credit is good, he should borrow money for that purpose, which he can obtain for 4 or 5 per cent, netting him a saving of 5 to 16 per cent.

Notwithstanding this the merchant cannot confine his sales to discounting customers; if he did he would find his business greatly reduced. The buyer who pays promptly at maturity is and always will be considered a most desirable customer.

The ones to guard against are those who

buy on thirty days and take sixty to ninety to settle. This class of customers is frequently found unsatisfactory in many ways, claiming shortage, questioning quality, and making many other unreasonable demands in order to delay payments. The customer to guard against is the one who begins as a discounter, becomes a prompt payer at maturity, and finally reaches the stage of habitual slowness. In such a case the end can be seen before the notice is received from the bankruptcy court.

Various conditions govern the extension of credit. Where the margin of profit is small the utmost caution must be exercised, while on the other hand, where profits are large or the merchant is able to move shop-worn goods for which there may be only a limited demand, much more liberality can and should be shown. Other conditions can also be considered; say, for instance, the merchant is doing a safe business which nets him a profit of 15 per cent, and with the same facilities or with no advance of expense he can increase his trade 25 per cent. In such a case he can afford to take moderate risks, even if his loss does increase on the new business, for it means an increase in his net profits, providing the loss is kept within the 15 per cent basis on the new business.

Credit should be guarded by the strictest laws which will not work injustice to the honest debtor, but should be severe enough to detect and properly punish the sharks of trade who are daily using every talent they possess to defraud their creditors. If the merchants, bankers and credit men will work in unison their prayers will be listened to by our legislative bodies. This was illustrated in the last session of the New York Legislature, when the Lewis bill, "To govern the sale of merchandise in bulk," became a law. If the same persistency is exercised by the merchants of the nation at large, many desired amendments can be obtained to the present insolvency laws.

Ordinary Soft Spelter.

Methods for soldering aluminum have become plentiful, but none has yet proved quite successful. One of the latest methods is that of C. Ph. Soerensen, of Copenhagen, who heats the jointed parts to 300 degree C., and treats them in a lye of concentrated sodium. After careful washing the cooled joint is soldered in the ordinary way without the use of borax or similar solutions. Trials made with ordinary soft spelter were very successful. The parts can be soldered at any time after heating and the lye bath, the bath removing the oxidized film and fatty substances on the surface.

The Retail Record.

Brazil, Ind.—Harlan Rector, fire; loss not known.

Westfield, Mass.—E. E. Morand succeeds Fred H. Cooley.

Mansfield-Rhodes Wheel Co., Phoenix, Ariz., assigned; liabilities not given.

LATHE ACCURACY

Not Always as it is Supposed — Some Methods of Testing.

"Talking about accuracy in mechanics, I wonder how many cycle shops have lathes and other machine tools developing the full degree of accuracy which they might do under proper treatment and supervision?" Not many is the conclusion of the writer on the subject.

"In the first instance the cycle maker in a moderately small way who uses his lathes for general jobbing work will not buy first class tools, so that we have a certain degree of inaccuracy to deal with from the start, and as the lathe is used this inaccuracy becomes greater, the deterioration being proportionate to the amount of attention the tool receives and the degree of skill displayed by the one who overhauls it.

"I have known men who have purchased quite inferior lathes in so far as workmanship is concerned, but of good general specification, who have simply taken in hand the crude and imperfectly finished tool, and by their own knowledge of lathe construction converted it into a fairly accurate tool.

"On the other hand, one frequently comes across lathes of high class when new, which have simply been allowed to go to wreck through want of proper skilled attention at suitable intervals, or through using the tool on jobs for which it was never intended or imperfectly adapted.

"I am talking about lathes now because the subject so well fits to follow on the last paper, and indeed might well have been a continuation of the same.

"What I mean by this is, that once you are able to appreciate really fine measurement by caliper, micrometer, surface plate and otherwise, you will be likely to find faults in the lathe which had previously escaped your notice, because the very fact of your being able to discern measurement of fine degree would naturally cause you to inquire into any variation and the cause of it.

"So that supposing we are in possession of a fairly true surface plate and some good measuring instruments it will be astonishing what a number of radical errors in construction or adjustment will be discoverable in the lathe or other machine tools—always providing we care to look for them—and these instruments will do good service in helping to correct such faults.

"For instance, if you have a lathe you are proud of, and which you think a very paragon of accuracy, try the following experiment: Turn up a steel rod—say 12in. long by $\frac{3}{4}$ in. diameter—this will leave nothing of inaccuracy due to springing of the rod, so that if your lathe is true, the rod will be $\frac{3}{4}$ in. diameter throughout its length.

"First try the turned rod with ordinary calipers, and if there is much wrong with the

lathe you will find it by this method in the varying diameter of the rod.

"But the calipers alone can tell you little more than the general direction of the error, and that the lathe is turning taper; now go over the rod again with the micrometer, and note how what appeared a very slight variation of size under the calipers is magnified by reason of the greater sensitiveness of the more delicate instrument. Then try the rod for circularity by passing it between the jaws of the micrometer, selecting varying opposite diameters and positions in the length of the rod, and unless your lathe is a very fine one indeed, you will be able to cover a large sheet of paper with the decimal figures detailing the variations in diameter to be found throughout the length of the bar—always supposing you have a good micrometer and can appreciate readings up to the quarter part of one-thousandth of an inch.

"And this is about the most simple object lesson in connection with truing up a lathe, but if you don't already know the subject, you are a long way from understanding what is the matter with that lathe when you have finished the micrometer test, though, if properly understood, the micrometer is capable of telling you most of it.

"For example, if you divide the foot of turned steel rod into ten equal parts, and then record the micrometer reading on each section you will probably first notice that the lathe is turning taper, that the rod is, say .01 of an inch larger at one end than the other; now if the taper is a true one, each division should read .001 smaller or larger than its neighbor according to the direction of traverse, but what supposing the reading alternates from increase to decrease in the separate sections when proceeding in the same direction?

"In the first place, the existence of a taper proves the headstocks of the lathe to be out of line with each other in relation to the lathe bed, and the second condition of unequal progress in the taper proves that the lathe bed (assuming the job has been done on the self-acting gear) is untrue, and so allows the saddle, and consequently the tool, to occupy varying positions with relation to the work being done.

"A lathe bed that is worn badly downward at one point will have the effect of increasing the diameter of the work at that point by reason of the cutting edge of the tool being removed further away from the centre of the work, and a similar result will be observed if the lathe bed is badly made or badly worn in the side guides, such as would be the case where an originally fairly accurate lathe had been employed some considerable time on one job occupying but a small portion of the bed, so wearing away that portion that the saddle would be forced back when doing a long self-acting cut, and so cause the work to be a greater diameter at this point by reason of such defect in the bed.

"Here, then, is our first lesson, for to turn out true work the lathe bed must be true and the headstock set truly upon it."

ALUMINUM SOLDER

Formula of a Recent Patent—Without Flux and Leaves no Oxidation.

There was recently issued a United States patent for an aluminum solder, from the specifications of which the following is given:

Melt together, for heavy work, 5 parts of tin, 4 parts of lead, and then add to this 6 parts of melted aluminum. Then add 1 part of zinc, and after mixing the same thoroughly pour the composition into molds and allow the same to harden. For small or lighter work vary the proportions in the following manner: Six parts of tin, 5 parts of lead, 4 parts of aluminum and 1 part of zinc.

The above compositions form an alloy which melts at a considerably lower temperature than the aluminum or parts to be soldered. The inventor claims that no flux or scraping of the aluminum to remove the oxide is required, and that the oxide that forms on the aluminum will not affect the joining of the metals or parts when the proper heat is obtained. It is understood, of course, that the last named composition melts at a lower temperature and is preferable for light and delicate work.

In employing this solder the usual brazing fire of gas and air for imparting a high heat is used and into which the aluminum or part to be soldered is placed, it being advisable to avoid having too much back heat from the bricks.

The parts to be soldered are heated until the outer surfaces brighten or slightly soften. It is best to keep the solder near the flame, so that when a joint is heated sufficiently the solder is ready to melt and drop thereon in sufficient quantities to solder the same, after which a small paddle is used to smooth over the joint. If the aluminum should get too hot it should be allowed to cool for about one minute.

When the joint is finished it should be allowed to cool slowly—that is to say, it should not be placed in water, for a quick cooling is apt to crack the soldered joints. The inventor states that after a joint is cooled and finished it has the appearance of pure aluminum and will not oxidize or tarnish.

Cresceus Refused to Score.

At a recent horse meet on the Columbus, O., track a novel experiment was tried in the effort to have Cresceus, the trotting champion, lower his record of 2:02 $\frac{1}{4}$. In addition to the regular pacing mate and another running horse Cresceus was followed throughout the mile by a motorcycle. The owner thought that the noise of the motorcycle would frighten the champion and spur him on to greater efforts. It was impossible to tell whether it had the effect desired or not, for Cresceus seemed to pay absolutely no attention to the machine.

RACING

Here is the standing of the riders in the national professional championship races:

Name.	1st	2d	3d	4th	Pts.
1. Frank L. Kramer....	18	3	1	0	122
2. Major Taylor.....	4	6	1	1	52
3. Iver Lawson.....	1	5	4	3	33
4. O. S. Kimble.....	0	4	3	4	28
5. G. H. Collett.....	0	2	5	3	24
6. J. T. Fisher.....	0	1	2	1	10
7. O. L. Stevens.....	0	0	2	1	8
8. W. S. Fenn.....	0	0	1	4	7
9. John Bedell.....	0	0	1	1	4
10. James Bowler.....	0	0	0	2	3
11. Lester Wilson.....	0	0	1	1	3
12. E. C. Bald.....	0	0	1	0	2
13. G. C. Schreiber.....	0	0	0	1	1

The protest made against Taylor and Bowler by Kramer and Lawson for alleged team work in the races at Providence last week has been dismissed. Points and money for first and second place have been divided equally between Kramer and Taylor.

Five thousand spectators saw cycle records sent sky high at Vailsburg September 7, Nat Butler and Howard Freeman creating new world's figures in a five mile paced race. Butler accomplished his new mark in the final, and Freeman in the second trial heat. Both riders covered the distance in exactly the same time, 6:56. The best previous time, 7:10, was made by Joe Nelson at Philadelphia. Butler also annexed all the intermediate mile records, riding the last mile in 1:22 4-5 world's record in competition. There were six starters, three in each heat, with two to qualify. Butler, Nelson and Bowler lined up for the first heat. Nelson was first to show when the word was given. On the second mile Butler forged to the front, and on the next lap Bowler, who had hung on gamely, was shaken off by the fast pace and sat up. Both Butler and Nelson finished the race without a mishap, Butler winning by half a lap in 7:16. Freeman, Munroe and Leander were the contestants in the second heat, and Freeman, following the machine used by Butler in the previous heat, cut out mile after mile and sent record after record by the way. He won his heat by over half a lap from Munroe. Leander lost his pace and was lapped twice; time, 6:56. In the final Butler used the same machine he did in the first heat. With a heat already to his credit, the conditions calling for the best two out of three, Butler made play to beat Freeman's time. He pulled away from his opponents when the race was on, and gradually increasing his speed, rolled off mile after mile in record time. He won the heat and race by three-quarters of a lap. Nelson was second, Freeman third and Munroe fourth. The time for the heat equalled Freeman's effort, 6:56. Billington captured both the amateur races. The half mile open was run on a novel style, the first and second men in the fastest heat to be declared

the winners. There were five heats, and Billington and Dove did the best time, doing the half mile in 1:00 2-5. Glasson and Goodwin did the next fastest heat in 1:01, and Zanes and Hooper got third in 1:01 1-5. In the mile handicap Billington rode from scratch. The limit men were overhauled on the first lap, and it was a loaf to the eighth pole the last time around. Here Billington went to the front, winning easily by a length. Dahlke (100 yards) second, Schlee (20 yards) third, Coffey (40 yards) fourth; time, 2:02 3-5. There were five contestants in the single motor race, a handicap affair, at five miles. J. De Rossier had the limit and was never caught, winning by three-quarters of a lap. F. W. White, the scratch man, finished second, Bob Bennett got third, and Jimmy Hunter fourth. The time was 6:42.

At the Parc des Princes track, Paris, a series of three days' paced racing was inaugurated, the distances being 50, 80 and 100 kilometres, or 31, 50 and 62 miles, respectively, dates August 10, 15 and 17. On the 10th four men faced the starter—Tom Linton, Thaddeus Robl, Emile Bouhours and Constant Huret. Linton was the favorite at the distance. Luck, however, was against him, for after getting away from the field his rear tire punctured, which necessitated his changing machines. In the meanwhile Robl gained a lap, and Bouhours and Huret made up their lost ground. Robl rode very regularly, and was never headed again. Robl's time for the 31 miles was 41:38 4-5. Huret second in 43:46 4-5, Linton third in 43:49 4-5, and Bouhours fourth in 43:51 4-5. Record for the distance held by Linton, 40:45. There were ten thousand spectators present. Some fifteen thousand spectators lined the rails for the second series, on August 15. The distance to be ridden was 80 kilometres, about 49¾ miles. Fate seemed to visit Linton and Robl in turn. On the second day Robl fell while travelling at the rate of 45 miles an hour, his front tire bursting. Luckily, however, he was not fatally hurt. He did not remount, however. When Linton looked like putting 46 miles in the hour his pace went wrong, his reserve motor acting similarly for a time. Linton consoled himself by winning the second series in world's record time, and reducing the world's 50 mile record by over four minutes. Huret and Bouhours both rode well. The final classification of the second stage was as follows: Linton first, in 1:06:07 2-5; Bouhours second, 1:10:06 3-5; Huret third, 1:10:31 2-5; Robl withdrew. The wonderful riding of Linton on the second day was repeated on the 17th and last day. Robl, who was severely shaken up on the second day, was thrown again by his tire bursting. He was rendered unconscious, but soon came to. Huret, Linton and Bouhours continued at a great pace, Robl lowering the records from 2 to 9 kilometres. After that Bouhours led until 10 miles had been covered, when Linton went to the front. Linton was never afterward caught, covering the 100 kilometres (62

miles) in 1:53:50. Bonhours second, in 1:56:05. Neither Huret nor Robl finished. Sixteen thousand persons witnessed the races.

Frank Kramer at the Vailsburg track September 6 defeated "Major" Taylor, and demonstrated to the satisfaction of the five thousand spectators who were present that he is not only Taylor's master, but that he had captured the national championship for the second time simply because he is the best rider in this country to-day. The management offered a purse of \$400 for the two men to ride for, best two in three heats. The first was at half a mile, and, as expected, it was a loafing race for the first half of the distance. Taylor succeeded in compelling Kramer to set the pace up to the backstretch on the second round, when Taylor started to sprint, and then decided that he would not. This allowed Kramer to take the lead, and he kept in front to the end, winning easily by a little over a wheel's length in 1:12 2-5. In the second heat the distance was at one mile, and Kramer again won. The men simply crawled around the track, with Kramer in front for three-quarters of a mile. In the last quarter the sprint was started, with Kramer on the pole and in front. Taylor tried to come on in the stretch, but he could never catch up, and Kramer won by about eighteen inches in 4:18 2-5. In the amateur events George Glasson and Billington divided honors about evenly, Glasson winning the 5-mile open race in 12:11 2-5; Hurley, second; Billington, third, and M. F. Dove, fourth. Billington won the half-mile handicap from scratch in 1:02; Hurley, scratch, second; Glasson, scratch, third. John King, with 140 yards, was practically given the 1-mile professional race. He rode in fine form, but would probably have been overtaken had the others taken a fair share of the pacing. McFarland, scratch, was second, and Fisher, 40 yards, third; M. Bedell, 80 yards, fourth. Time, 4:18 2-5.

The middle distance championship was practically settled at Boston September 6, when Walthour defeated Champion in a 25-mile paced race by half a lap in 36:32 3-5. Walthour started from the tape, and Champion on the back stretch. The start was a good one, and lap after lap the riders went without any appreciable gain. Walthour toward the end of the first mile picked up a trifle, and at the end of the mile was leading by 10 yards. He got after Champion and increased his lead to 30 yards in the second mile. The fourth mile found Walthour practically trailing Champion. He made a dash for the front, but Champion stood him off. He then fell in behind Champion and trailed him. Walthour made a desperate effort to pass in the seventh mile, but was unable to do so. The fifteenth mile found Walthour 100 yards ahead, his motor skipping and Champion pacemakers pedaling hard in an effort to get more speed out of their tandem. On the last mile Walthour

tried hard to pass Champion, but could not get by, and he finished half a lap ahead. The one-mile amateur handicap was easy for R. M. Ehnstrom, the limit man. He got away from the other high-markers, and at one time was half a lap to the good. M. Downey and E. L. Collins went after him, but he won by 10 yards. Wm. Younie nipped Downey at the tape for second place. Time, 1:01 2/3. The mile amateur open, which was won by Younie; C. L. Kimball second, Downey third, and Collins fourth. Time, 27:57 2-5.

Kramer was unplaced in the first heat of the one-third mile professional championship race at Hartford September 8. S. M. Alexander got a good lead on the second lap, and J. P. Jacobson got the jump on Kramer on the last lap, just beating to the tape, while Alexander was an easy winner. Major Taylor won his preliminary and semi-final with ease, and in the final heat did not have much trouble in beating Iver Lawson; Fisher third, Jacobson fourth; time, 0:41 3-5. The national amateur championship was decided, Hurley winning over Root. Hurley and E. F. Root had made 18 points each. The first heat was a quarter mile. Hurley struck Root's handlebars, and he rode up the bank. The judges made the boys ride the heat over, and Hurley won it easily in 0:31. Hurley also won the half mile race, and this gave him the championship. He rode in much better form than Root, and ap-

parently outclassed him; time, 1:19. There were eighteen starters in the ten mile professional open, which was won by Kramer; O. S. Kimble second, William Martin third and W. S. Fenn fourth. The two mile motor bicycle race was won by Rudin; Burroughs second. First mile ridden in 1:23, second in 1:21 4-5. There were 4,000 spectators present. The mile consolation was won by Collett; Beauchamp second, Bedell third; time, 2:08.

Caldwell defeated Freeman two straight 10-mile heats at New Haven, September 4. The first heat was won by half a lap in 16:24 2-5. In the second heat, when nine miles had been ridden, and Caldwell was a lap and a half to the good, the tires on both pacing machines were punctured, and shortly after the tire on Caldwell's wheel was punctured. The last mile was ridden unpaced, Caldwell winning by three-quarters of a lap in 17:03 2-5. George Glasson rode a fine race in the 5-mile open amateur, and in the spring for home beat out C. Hollister. W. Haggerty was third. The time was 11:15 3-5. In the 1-mile handicap amateur the limit men took the honors. J. Noll, 140 yards, first; H. Scofield, 160 yards, second; W. Brant, 160 yards, third. Time, 2:00 3-5.

Harry Caldwell defeated Major Taylor in two 5-mile heats out of three at Hartford September 2. In the first heat Taylor won in 7:47 1-5. Between the second and third

mile Caldwell, to all appearances, lost his pace, but claimed that his motor gave out and stopped riding, Taylor covering the distance alone. Caldwell won the next heat in 7:48 3-5, and the third and race in 7:27. The mile amateur handicap was won by J. Noll, 40 yards, in 2:00 3-5; Harry Scofield, 160 yards, second; W. Brant, 160 yards, third. In the 5-mile open amateur G. Glaston finished first; C. L. Hollister, second, and W. Haggerty, third. Time, 11:15 3-5.

Otto Maya won a closely contested 25-mile paced race at Boston, September 6, from Will Stinson, B. de Guichard and Joe Nelson. Most of the distance the fight was between Stinson and Maya, as de Guichard's chain broke in the fourth mile, setting him back a little. Nelson hung close to the leaders. Maya took the lead, but was passed by Stinson in the seventh mile. At fifteen miles the latter barely held the advantage. In the twentieth Maya went to the front and finished half a lap ahead. Nelson was third. Time, five miles, 6:59 4-5; ten, 13:59 4-5; fifteen, 20:56 3-5; twenty, 27:54 4-5; twenty-five, 35:07 4-5.

At Providence, September 4, Champion in a 25-mile race with Stinson lowered the world's record from 21 miles up, making the 25 miles in 34:33, a cut of 24 seconds from the previous best mark, made by Munroe. Stinson had hard luck with his motors, and rode several laps unpaced.

WE HAVE AN INTERESTING PROPOSITION FOR EVERY JOBBER^{AND} DEALER FOR 1903.

OUR STANDARD MAKES OF BICYCLES:

ADLAKE, AMERICA, CROWN,
SHERMAN, MANSON.

THE REPUTATION, MATERIAL, WORKMANSHIP AND FINISH OF THESE BICYCLES ARE UNEXCELLED.

WRITE AT ONCE AND TO YOUR PROFIT.

DESIRABLE AGENTS WANTED IN UNOCCUPIED TERRITORY.

GREAT WESTERN MFG. COMPANY, La Porte, Ind.

BRANCHES:

NEW YORK, 48 Warren Street.

BOSTON, 170 Oliver Street.

CHICAGO, 110 Ontario Street,

SAN FRANCISCO, 1522 Market Street.

The Week's Patents.

708,089. Bicycle Brake. Gioacchino Stabile, San Francisco, Cal., assignor of two-thirds to Joseph C. Sala and Armand Maurice Vivier, San Francisco, Cal. Filed April 14, 1902. Serial No. 102,779. (No model.)

Claim.—1. A steering head for a bicycle comprising a middle section constituting a rigid member of the steering post, outer sections connected to the middle section at opposite ends by hinge joints, said outer sections having limited angular movement of their hinge joints toward each other in one direction under an inward pressure, but to be rigid and in line with the middle section under pressure applied in the opposite direction, and means connected with said hinged sections operating under the angular movement thereof in one direction to grip the rim of the wheel from opposite sides, and to release the wheel by their movement in the contrary direction.

708,197. Brake for Cycles. Wladimir Bankowitch, Paris, France, assignor to Compagny Albert Masifat & Co., Paris, France. Filed Nov. 15, 1901. Serial No. 82,488. (No model.)

Claim.—In brakes for cycles, the combination with the driving wheel hub and two rings, threaded thereon, of the sprocket wheel having diametrically opposite cam surfaces, and a loose ring provided with correspondingly located inclines adapted to engage said cam surfaces when the sprocket wheel is rotated forward, and a second loose ring having inclined surfaces located relatively to those of the first ring in such position as to engage, when the sprocket is rotated backward, cam surfaces of the sprocket wheel alternating with those engaged by

the inclines of the first mentioned wheel, substantially as described.

708,201. Driving, Braking and Coasting Mechanism. Frank B. Case, Rochester, N. Y., assignor to Riggs-Spencer Company, Rochester, N. Y., a corporation. Filed June 28, 1901. Serial No. 66,406. (No model.)

Claim.—1. In a driving and coasting mechanism, the combination of a hollow hub having bearings at its ends; a driving mechanism extending within the hub; external threads upon the part extending within the hub; conical surfaces A0 within the hub adapted to be engaged by a clutch ring; an expansible clutch ring adapted to engage said surfaces; and a clutch nut upon the threaded portion of the driving mechanism, whereby the clutch ring is expanded so as to engage the hub, substantially as described.

708,202. Cushion Frame for Bicycles. Frank B. Case, Rochester, N. Y., assignor to Riggs-Spencer Company, Rochester, N. Y., a corporation of New York. Filed Aug. 6, 1901. Serial No. 1,068. (No model.)

Claim.—1. In a bicycle, the combination of a rigid front frame, a rear wheel fork flexibly connected thereto at or near the crank hanger, a brace flexibly connected to the rear portion of the front frame and comprising as one section concentric tubes, a tube fitting air tight the space between said concentric tubes whereby the two sections may telescope one into the other, a spring within said tubes for extending said sections with reference to each other, a collar upon one tube of each section, and a spring between said collars tending to cause said sections to telescope one into the other when they are extended beyond the normal limit, substantially as described.

708,228. Back Pedaling Brake. Ernst G. Hoffman, Chelmsford, England. Filed May 10, 1900. Serial No. 16,147. (No model.)

Claim.—1. In a driving and braking mechanism, the combination with a hub having a flange on same, and a spindle on which the hub can rotate, of a free driving member, means carried by the hub for obtaining a lateral motion of such member to bring it into contact with the flange on the hub for driving purposes and means carried by the spindle for obtaining a similar lateral motion of such member to bring it also into contact with the flange on the hub for braking purposes.

708,403. Bicycle Saddle Post. Oscar F. Reeves, Saginaw, Mich. Filed March 12, 1901. Serial No. 50,862. (No model.)

Claim.—1. A seat post adapted to be secured in a seat post socket, and comprising a tubular stem, a sleeve having telescopic connection therewith, a spring within the tubular stem, a spring support connected to the sleeve, and exposed means for adjusting the tension of the spring, substantially as described.

2. A seat post comprising a tubular stem, a sleeve having telescopic connection therewith and secured against other than slidable longitudinal movement with relation thereto, a spring within the tubular stem, a spring support, and exposed means for adjusting the tension of the spring, substantially as described.

708,482. Pneumatic Tire. Thomas B. Jeffery, Kenosha, Wis. Filed July 24, 1901. Serial No. 69,471. (No model.)

Claim.—1. A pneumatic tire comprising concentric flexible bands adapted when secured together at their lateral edges to con-

THE PENNSYLVANIA RUBBER CO.

HAVE A

PROPOSITION OF UNUSUAL INTEREST TO JOBBERS

FOR 1903.

Write for Particulars.

ERIE, PA.



Model 16. Price, \$1000.

WOULDN'T IT MAKE YOU GLAD

to get a **TONNEAU MOTOR CAR** at the price of a runabout, and one that is just as good as the high-priced cars, and get it with as much saving of time as you save dollars?

You get all this when you buy the **BUFFALO TONNEAU**. It is a car specially designed to meet the great demand for a really comfortable, roomy car, provided with plenty of power to go practically anywhere without trouble. It is constructed with a long wheel base, making the car exceptionally safe, and is very easy to manipulate, owing to the absence of complicated mechanism.

E. R. THOMAS WORLD'S RECORD MOTORS

Took the only Gold Medal in the recent Fifty Mile Consumption Test held in New York.

BUFFALO TONNEAUS HAVE THOMAS MOTORS.

THOMAS "AUTO-BI."



Model 4. Price, \$175.

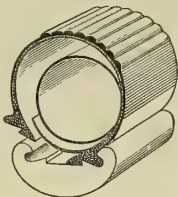
" 3. " 150.

BUFFALO AUTOMOBILE & AUTO-BI CO., 1190-1200 Niagara St., Buffalo, N.Y., U.S.A.
BOSTON OFFICE, 174 Columbus Avenue. NEW YORK OFFICE, 29 West 42d Street.

G & J TIRES

MADE FOR THOSE WHO WANT THE BEST.

They are detachable, double tube; are made from the best materials; ride easiest and wear longest. Anyone can repair them anywhere.



Catalogs and Prices on Request.

G & J TIRE CO.

INDIANAPOLIS, U. S. A.

Makers of G & J Tires for Bicycles, Motor Bicycles, Automobiles and Driving Wagons.

HAND AND FOOT PUMPS,

Oilers, Repair Tools,
Valves, Name-plates, etc.

Spelter Solder

Sheet Brass,
Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
423 Broome St., New York

HIGH GRADE

wheels must have the
best equipments.

There is nothing that gives more value for
the money than the use of the

MORSE TWIN CHAIN ROLLER



NOISELESS IN MUD, WATER OR
DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless
Rocker Joints. Insist on having the
Morse Twin Roller. Fits regular
sprockets.

Send for Catalogue and
Trade Price to

Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

JOB LOTS, bicycles and sundries—Spot cash for bargains. LOUIS GIBAND, 6 Woodlawn St., Rochester, N. Y.

WANTED—First class bicycle enamiler and repair man. Steady work. F. M. SPINNING, Seattle, Wash.

WANTED—To take charge of a general Bicycle, Motorcycle, Automobile, and Type-writer repair shop by a young man who has had twelve years of experience, and can give best references. J. B., care Bicycling World.

WANTED—Everyone interested in motor bicycles to purchase "Motocycles and How to Manage Them." Contains 126 pages bristling with information. \$1.00 per copy. For sale by The Goodman Co., 154 Nassau St., New York City.

The Only Tires Fit For Motor Bicycles—

GOODYEAR DETACHABLES

GOODYEAR TIRE & RUBBER CO., AKRON, OHIO

ALL ROADS ARE EASY WHEN THE



STAR BALL RETAINER

IS USED.

With millions in daily use, it has stood the test for more than five years, and is adaptable to ball bearings of any kind.

If you are users of ball bearings we would be pleased to hear from you and mail you our catalog with the latest information, which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.

WANTED.

TO BUY JOB LOTS OF

Bicycles, Tires, Sundries and Fittings.

WRITE US WHAT YOU HAVE TO SELL.

E. P. BLAKE CO., 57 Sudbury St., Boston, Mass.

You all know what the diamond stands for among precious stones. You can't well afford not to know that

D·I·A·M·O·N·D·T·I·R·E·S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

The 1902 BRECKENRIDGE GAS LAMP

—AND—
The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

MANUFACTURED BY

THE NATIONAL CEMENT & RUBBER MFG COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

Liberty Dry Batteries

The best is none too good. Ours is best. Send for our illustrated booklet, describing our automobile electrical specialties, spark plug, coils, batteries, etc.

LIBERTY ELECTRICAL SUPPLY CO.,
136 LIBERTY STREET, NEW YORK.

REGAL BICYCLES.

STEARNS BICYCLE AGENCY,
General Distributors,
SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that
concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

stitute an inclosure, in combination with rigid annular elements which lap and unite such flexible bands at their corresponding lateral edges, such rigid annular elements being exterior to the edges which they unite and forming rigid lateral armor for the tire.

Tourist Cars on the Nickel Plate Road.

Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fridays. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest ticket agent, or write A. W. Ecclestone, D. D. Agt., 385 Broadway, New York City. ***

Westerners Returning From New England Seacoast and Mountain Resorts

To Pittsburg, Pa., and points on the Pittsburg & Lake Erie Railroad, will find the schedules and through train service, via Boston & Albany and New York Central, thoroughly up to date. Pullman Sleeper leaves Boston 10:45 a. m. daily, except Sunday, arriving Pittsburg 6:02 next morning. Dining car service enroute at convenient hours.

Copy of "Westbound," containing detailed schedule and train service of this and other through sleeping car lines west over New York Central lines, can be obtained upon application to Ticket Agent or Passenger Department, Boston & Albany R. R. ***

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

How it Gives Exercise

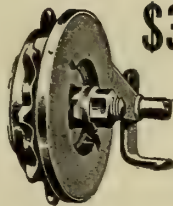
Some people who think riding a bicycle good exercise object to the motor bicycle on the ground of the inaction of the driver. As well might one object to taking the air in a carriage or on a coach. Though the driver of a motor bicycle obtains no active exercise with his feet, except at starting or helping the engine by pedalling up a hill, he is getting pure air into his lungs, and he has plenty to do in steering and manipulating his engine, now advancing, now retarding, the sparking, and seeing that his engine is doing its work properly. A good driver can tell by the pulsation if all is right, and his ingenuity is kept constantly at work to attain the highest pitch of efficiency. There is exercise in plenty both for mind and muscle.

SPLITDORF SPARK COILS.

HIGH GRADE
BEST MADE



C. F. SPLITDORF, 17-27 Vandewater St., New York



\$3.00 Coaster Brake

FITS ANY HUB.

Screws on in place of the usual sprocket. Anyone can apply it. For free booklet and particulars, address

Canfield Brake Co., Corning, N. Y.

OILERS.

"PERFECT"



25c.

"GEM"



5c.

"LEADER"



10c.

"CROWN"



5c.

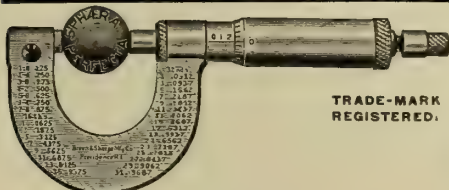
"STAR"



10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs., 240-2 W. 23d St., N. Y.



STEEL BALLS

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel.

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

"MOTORCYCLES AND HOW TO MANAGE THEM"

REVISED EDITION

BOUND IN CLOTH

The only Book of the Sort in Existence

CONTAINS A MINE OF VALUABLE INFORMATION

PRICE, ONE DOLLAR

THE GOODMAN COMPANY

123-125 Tribune Building, - New York City

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

*Electric Lighted—Chicago,
St. Paul and Minneapolis*

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

*Fast time to Marquette
and Copper Country*

NO change of cars. The best of every-
thing. Call on any agent for tickets
or address

481 Broadway - New York 435 Vine St., - Cincinnati
801 Ches't St., Philadelphia 507 Smith'ld St., Pittsburg
388 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.



The Authority of the Cycle World
RELIABLE NEWS
— ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.
Unbiased opinions on mechanical matters.
WEDNESDAYS, ONE PENNY.
Through all Bookshops and Newsagents or from the
Publishers
ILLIFFE & SONS Limited,
3, St Bride Street, London, E.C.4.
and HERTFORD STREET, COVENTRY

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic
tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect June 15, 1902.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	3.15 P.M.

"Chicago Special" has through Buffet Library Smoking Car
and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from
St. Thomas to Chicago. Both trains run daily and are made
up of the most modern and luxurious vestibuled Sleeping Cars
running through to Chicago.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence,
Waterloo, Webster City, Fort Dodge, Rockwell
City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars,
free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting
lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all
Through trains.

For tickets and information apply at any
principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, September 18, 1902.

No. 25

A. C. M. CO. INVOLVED

Troubles of Parent Company Finally Entangle the Other—Receivers Appointed in Seven States but Transaction of Business is not Interfered With.

While it was first stated that the American Cycle Mfg. Co. probably would escape entanglement in the troubles of the parent company, the American Cycle Mfg. Co., the hopes or anticipations have proved vain. The American Cycle Mfg. Co. went into receivers' hands on Tuesday of this week.

Application was made simultaneously in the seven States in which the concern has property—New Jersey, Massachusetts, Rhode Island, Illinois, New York, Connecticut, Pennsylvania and Maryland. In the first four States R. L. Coleman, Albert A. Pope and John A. Miller were named. In New York Messrs. Coleman and Pope are serving, and in Connecticut they are assisted by A. L. Shipman. The Pennsylvania and Maryland courts have not yet announced their appointees, but that Messrs. Coleman and Pope will be of the number is evident.

The American Wood Rim Co., in which the A. B. C. is largely interested, figures as the chief creditor in the proceedings, which makes it appear that the pressure of outside creditors was becoming too great to be withstood, and obliged the bicycle company to take time by the forelock.

There are no executive officers of the American Cycle Mfg. Co. in the city, and at the offices of the A. B. C. no information of moment can be obtained.

The statement that the embarrassment of the parent company naturally impaired the credit of the dependent one is given as the general cause of the situation, which, it is added, will in no way interfere with the factory operations or business transactions of either.

Repudiates Reports of Failure.

Reports that they had failed, and that gained considerable currency, are vigorously denied by the Motor Cycle Mfg. Co., Brockton, Mass. They say they are working full time.

Bretz Comes Back.

J. S. Bretz, head of the Bretz Cycle Mfg. Co, Syracuse, returned on Saturday last from a trip abroad. While there he spent most of his time in England and Germany, and says while the cycle trade of the former country has been good it has not equalled the volume of the previous year; in Germany, on the other hand, the present season has been better than usual, and contrary to impressions here, higher prices have prevailed.

On the better class of both English and German bicycles, said Bretz, the dealers pay as much as the riders here pay for American bicycles of corresponding quality. He is firm in the belief that a fairly general advance in American prices is absolutely necessary for the well being of the trade.

No Reorganization Plan Settled.

The printed report that the reorganization committee of the American Bicycle Co. had decided to levy an assessment of \$5 on each share of common and preferred stock lacks authority. At the A. B. C. headquarters it is stated that that plan, like many others, has been suggested, but if it has been decided on the company's officials have not been informed; in fact, one of them stated that the reorganization committee is working entirely independent of the officers, calling on them only when information is desired. The reorganizers have held several meetings, but their auditors have not yet completed their examination of the concern's books.

Nothing Under \$40.

The Stearns Bicycle Agency, Syracuse, which markets the Wolff-American, Regal and Holland bicycles, have abandoned their \$25 model, and hereafter will have nothing to do with any bicycle listing at less than \$40. Manager Maslin says there is no money in handling low priced bicycles, and is of opinion that \$50 for roadsters and \$60 for racers should be the standard prices of reputable goods.

Steel Balls Advanced.

The advance in the price of steel balls, foreshadowed by the Bicycling World last week, has already become effective; the increase averages about 33 1-3 per cent.

WHAT JOBBERS WANT

Albany Meeting Results in a Resolution of Suggestion to Manufacturers—Four Lists Drafted and all Contracts Deferred—The Proceedings.

Until Tuesday last the New York State Association of Jobbers of Bicycle Supplies seemed all name and no action. On that day and on the following one, however, the association took sufficient action to atone for any previous lapses; it was action, too, of a nature that will cause the trade to don its most serious thinking cap and to carry conviction that the New York jobbers are very much in earnest and with well defined and not too radical or too dictatorial ideas as to how their interests may be best served.

How far or how deep the movement may extend cannot be foretold; it is sufficient to state that among other things a committee on national organization and another on credit system were appointed. Their appointment will convey to any half-clear mind what may grow out of the two days' deliberations.

As all in the trade know, or should know, the meeting of the association occurred at Albany and it is fair to say that the cycle trade has known few such meetings, certainly not in a considerable term of years; it was split up into seven separate sessions. On Tuesday the jobbers met three times—morning, noon and night. On Wednesday morning and again in the afternoon they met in joint conference such of the representatives of the manufacturing interests as had personally responded to their invitation. In the interim, the coaster brake people and the time people, who constituted a great majority of these interests, each held sessions of their own to consider the jobbers' proposal and each reported back in due course.

On Tuesday afternoon the jobbers held their annual election and chose these officers: President, Charles W. Leng, of John S. Leng's Son & Co., New York; vice-president, C. L. Kelsey, The Kelsey Co., Buffalo; secretary-treasurer, William Spalding, Spald-

ing & Co., Syracuse. Executive committee: H. L. Hall, E. H. Hall Co., Rochester; Harris Parker, C. B. Barker & Co., New York; E. J. Willis, Willis Park Row Cycle Co., New York, and — — Turner, Albany Hard-



Harris Parker Meditates.

ware & Iron Co.; the last two being named at a later meeting after an amendment to the constitution, increasing the executive committee from two to four members had been passed.

But the election and all else were of small



Ralph Webster. Orrin Woodard.

moment as compared to the proposal. It took the form of a resolution that demanded nothing. It merely "suggested," but the suggestion was enough to keep all tongues busy—in meeting and out of it.

One element in the association was fearful

of newspaper men and had them rigorously excluded from all sessions; the element in



Rigdon Tells Willis a "Good One."

ingly, but in effect merely conveyed to the manufacturing trade four lists—the first made up of members of the association, the second of jobbers eligible to membership and the third of New York bicycle manufacturers who were deemed worthy of jobbing quotations. The fourth list was termed a "suspension list," and was made up of some fourteen tradespeople whose standing as jobbers is in question and which will be settled by correspondence. In transmitting these lists the resolution suggests that manufacturers quote jobbing prices only to those named, sales to others—retailers—being made at a mutually satisfactory price. The differential between the jobbers' and retailers' quotations is named, Wicked reporters while they know the figure are not supposed to know it. The resolution also gives assurance that prices will be maintained and that those makers who are favorable to the jobbers' proposal will be favored by the jobbers themselves.

The lists in question are as follows:

M e m b e r s .

C. B. Barker & Co., P. A. Frasse & Co., Charles E. Miller, C. M. Rice, New York Sporting Goods Co., American Cycle Manu-

OFFICERS OF THE N. Y. S. A. O. J. O. B. S.



Vice-Pres- Kelsey, Committeeman Parker, Pres. Leng, Sec'y. Spalding.

question was possessed of the idea that the resolution was a State document and should be so considered. It was treasured accord-

facturing Co., Wilson Co., John S. Leng's Son & Co., Progressive Cycle & Automobile

(Continued on page 627)

PERSONS'S IMPRESSIONS

Brought Back a Contract and Interesting Views of Things English and French.

Charles A. Persons, head of the Royal Motor Works, returned on Saturday from a quiet visit to England and France, which resulted in a contract that assures the exportation of a tidy number of Royal motor bicycles during the next few months.

What was most impressed on his mind, Person said, was the healthy condition of cycling throughout England. Everybody has a bicycle and rides it. The percentage of wheelwomen is very high, many times higher than in America, one reason probably being that an English girl seldom changes her costume for one especially designed for cycling.

"An abiding proof of the permanency of England's highest regard for the bicycle is found," he remarked, "in the individual's invariable contribution in the form of an immaculate machine. Be the model as old as the first pneumatic, you may see your face in its nickel, or hunt almost in vain for a scratch in the enamel. Every spoke glistens, while the chain, polished as when it left the factory, is the recipient of special care. All of which indicates the Englishman's, and specially the Englishwoman's, belief that cycling is one of the most important parts of their lives.

"Motor bicycling is in England and France far ahead of America, and this despite the fact that the best machines all bring prices close to \$250, and are comparatively complicated in their construction. In one afternoon I passed in a stretch of twenty-five miles, between Kingston and Guilford, five motor bicycles to which trailers carrying passengers were attached. In one trailer sat a lady, with two small children on an opposite seat, while pater familias comfortably puffed his pipe on the "choo-choo bike" ahead. For such work their motors seemed suprisingly small, yet they were invariably doing the work required of them on the level and up fair grades. The average efficiency impressed me as being higher than Americans would get from the same machines, and I was again compelled to admit the value of the Englishman's characteristics of method and thoroughness. The Englishman knows his machine, and he keeps it right—'fit,' as he would say. He finds a few minutes given to inspection before leaving home far better than roadside repairs, and he practices that rule. In many miles of touring on a Royal through the open country, out of the scores of motor bicycles, tri-cycles and quads met I did not see a single rider 'stuck.'

"The English, individually, take a greater interest in American goods than they did five years ago. They refer to the time when Americans sent a lot of trashy bicycles over,

but speak of it altogether as a thing of the past. Now they want to know 'what we've got to sell that's good,' and I heard more than one say, 'Ah, the States will give us the best motors before they are through.'

"In France the automobile industry came on with a rush, and the number of cars in constant use reached great proportions before the motocyclists settled on the bicycle in preference to the tri-cycle, with the result that to-day, at first glance, the motor bicycle may seem to be snowed under, but a Sunday morning in the Place de la Concorde, with machines flashing in from every direction to enter the Champs Elysees and fly on through the Bois du Boulogne to the roads of the south, will show one what strides the French have made here in two years.

"At the Automobile Club's kilometre speed trials before the Shah of Persia I saw the wildest lot of motors ever rounded up; all Paris wanted to get there on something that would puff, and they wouldn't have drawn the line at a street roller. Scores of the magnificent cars of the aristocracy, loaded with fair freight, were on hand, and from those you could go along the line to a bicycle with a motor of $\frac{1}{4}$ horse power, without flanges and with a head that looked like the straw bonnets we put on horses in summer."

Hydra Battery Short Circuited.

Robert J. Raymond has been appointed receiver for the Hydra Double Battery Co., of Nos. 70 and 72 Reade street, this city, manufacturer of semi-dry batteries. The liabilities are \$62,000 and assets \$4,000. At the office of the company it was stated that Mr. Raymond had been appointed receiver and the trouble was due to bad business and re-organization of the company, and that the business will go on.

The company is a New Jersey corporation, organized in January, 1901, with a capital stock of \$1,000,000, to operate in the United States on a German patent for batteries. A number of prominent men became interested in the company, among the directors being Lieut.-Gov. Timothy L. Woodruff. The president is Allen S. Apgar. The factory of the company, at No. 24 West street, was burned out on July 25 last.

The Hydra cell is well known in Continental Europe; where it has a wide use and has been given some trial in this country in motor bicycle use. The carbon in this cell, instead of being in a flat piece, is made in the form of a cylinder. This is filled with water, sealed, and forms the centre of the cell, as usual. The composition placed around this carbon cylinder is perfectly dry, to prevent it from rapidly deteriorating when not in use, and this in turn is surrounded by zinc, as usual. In addition a zinc is placed in the carbon cylinder.

When the cell is called upon to produce sparks a certain quantity of water in the carbon is drawn through the cylinder and mingles with the enclosing composition. This passage is supposed to take place only as needed.

COASTER-BRAKE INCREASE

Advance in Both List and Trade Prices Probable—Causes Making for it.

It is well within the realm of possibility that the price of coaster brakes will be advanced within the next thirty or sixty days.

The subject of an increase has been talked of for some time, and during the jobbers' meeting at Albany, on Wednesday, a number of coaster brake manufacturers who were in attendance got together and seriously debated the matter. They appeared so agreed in their opinions that the advance seems almost foreshadowed. The increase in the price of steel and labor, of course, enters into their calculations, and as one of them said, the coaster brakes that will be turned out for next year will incorporate improvements that have added not only to their cost, but to their worth.

If the advance is made, as seems likely, it will affect both trade and list prices.

Yale's Remarkable Record.

There is always interest in summing up the final of any condition or event, and occasionally the results show a truly marvellous state of affairs. The bulletin of the amateur championships for 1902 reveals a climax of this order that removes it from mere trade conditions, and that is most noteworthy and unusual, any way it is looked upon.

Not only did riders of Yale bicycles win the quarter, third, half, one, two and five mile championships, but Hurley and Root, both riders of that machine, tied for first in the summary of points, so that, irrespective of the results of the runoff, which was won by Hurley, the Yale could not dodge the honors; it had to be first. It is simply a detail, in view of the above combination, that of the 65 total points in the summary riders of Yales took 55.

What "Along" Means.

In an injunction suit brought by a property owner against the Sidepath Commissioners of Suffolk County, New York, to restrain the building of a sidepath in front of certain property, the question was over the meaning of the word "along" in the law of 1899.

The Second Appellate Division holds, in affirming the refusal of an injunction, that the word "along" as used is not synonymous with the words "alongside" or "adjoining," but was used in the phrase "upon or along" to complete the idea of superimposition, and that the consent of the abutting owner to the construction of a bicycle sidepath is only necessary when the sidepath is built within the lines of the sidewalk.

It is estimated that 97 per cent. of motorcycle troubles are electrical trouble. It follows that the "A B C of Electricity" should prove of interest to all motocyclists. Price 50 cents. For sale by the Goodman Co., 124 Tribune Building, New York.

The Profit in a NATIONAL is a Net Profit.

THE DEALER DOES NOT HAVE TO WASTE TIME
AND LABOR MAKING FREE REPAIRS.

Manchester, N. H., September 4, 1902.

NATIONAL CYCLE MFG. CO., Bay City, Mich.

Gentlemen:—I have used the NATIONAL Bicycle as one of my leaders for a number of years and am still of the same opinion as I was after my first year with them—that the NATIONAL is one of the best wheels on the market, and *repair shops would close up if they were the only wheels sold.* I shall certainly have them for one of my leaders next year.

Yours truly, ALFRED K. HOBBS.

DEALERS WHO WANT THAT KIND OF A BICYCLE WILL DO WELL TO
WRITE US EARLY ABOUT 1903.

THE NATIONAL AGENCY IS ONE WITH A PROFIT IN IT.

NATIONAL CYCLE MANUFACTURING CO., Bay City, Mich.

The Difference between Tire and the FISK.

Their material and workmanship MAY be as good, but the
construction of the FISK is so superior as to
make it the best tire made

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.

SPRINGFIELD,
40 Dwight St.

NEW YORK,
83 Chambers St.

PHILADELPHIA,
916 Arch St.

WASHINGTON,
427 10th St., N. W.

SYRACUSE,
423 So. Clinton St.

BUFFALO
28 W. Genesee St.

DETROIT,
252 Jefferson Ave.

CHICAGO,
54 State St.

SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday
By
THE GOODMAN COMPANY,
123-125 Tribune Building.
(154 Nassau Street)
NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] **\$2.00**
Single Copies [Postage Paid] . . . **10 Cents**
Foreign Subscription **\$3.00**

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

☞ Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

☞ Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should
Address us at P. O. Box 649.

NEW YORK, SEPTEMBER 18, 1902.

The Jobbing Situation.

It is not to be denied that the meetings of the New York Jobbers at Albany on Tuesday and Wednesday of this week proved more portentous and left broad suggestions of larger and more far-reaching probabilities than were anticipated.

The jobbers are very much in earnest, and while interests may conflict and while opinions differ as to the outcome of their proposals, it cannot be said that the purposes are not worthy or that they do not make for the health of the trade.

Substantially what they desire is that jobbing prices be quoted only to bona fide jobbers—surely a reasonable request, and one that, on the surface at least, none should hesitate to grant, and that is granted in theory, if not in practice.

It is no secret, however, that some jobbers at least have shared their differential with retailers, and thus underquoted the manufacturer's own retail price, but if the resolution of the New York jobbers means any-

thing it means that they will not longer countenance that sort of thing. The only other potent objection is that many jobbers have "preferred lines," and will catalogue or carry not every one's supplies, but only those which they themselves favor—a practice that has left many deserving manufacturers in the lurch and forced them to assiduously cultivate the retail trade to effect or sustain an opening. This last is really the knottier problem, and one which does not appear to have been solved or even considered.

It does not, however, materially alter the situation created at Albany. The jobbers made plain that they will favor those who favor them, and it is for the manufacturers to discover the real depth or extent of this favor.

The underlying motive of the organization and meeting—jobbing prices for jobbers only—is undeniably a proper one, and is after all merely a tenet of commercial honesty, and that it has struck a sympathetic chord the movement looking toward national organization seems to indicate.

Autumnal Suggestion.

If retailers were not so accustomed to viewing the so-called season as closed before the month of June has spent itself, the suggestion of the coaster brake as an autumn stimulant probably would be of more effect.

That device, which has brought so many dollars to the dealers' tills, is, or may be made, as potent in September as it is in May.

There are tens of thousands who cycle little, if at all, during the summer, whose excuse, "It's too hot to ride," now avails nothing, and to this class the exhilaration that comes of the device that permits a coast at will during the next three months of clear, crisp, bracing weather can be made appeal.

As one logician expressed it, every man retains pleasant memories of the joys of the swift glides down hill of his bobsled days, and it needs but a stirring of those memories to bring sharply to him the delights of the bicycle with a coaster brake. It is when the first breath of winter sharpens the air and colors the cheek that such stirring is accomplished easiest.

Forgetting Their Own Past.

The spirit has finally moved the officials of the New York Division, L. A. W., to "do something." It takes the queer form of an ordinance requiring automobilists to appear before a board of examiners, who will pass on

their competency to drive their vehicles. If deemed competent they will be tagged at a cost of from \$5 to \$10 per tag, the license tag being revokable should the automobilist offend the speed or any other laws.

The proposed law has been introduced in the New York City Council, and there it is likely to die a peaceful and well deserved death. The L. A. W. should be engaged in better business. Some twenty years ago the identical and repulsive proposals were brought to bear against bicyclists of this city, and that bicyclists should at any time seek to have them applied to the now new form of locomotion bespeaks a short memory and a churlish, unprogressive and ungrateful spirit.

We refuse to believe that the majority of cyclists are in accord with the proposed ordinance, which appears an indication that the League officials have had an overdose of "yellow" journalism. They should change their newspapers.

Automobilists are merely going through the same mill through which the bicyclists passed, and from no other class of people have the users of motor vehicles more reason to expect sanity and sympathy.

The Small Dealer's Accounts.

One of the most troublesome things to some small dealers is the keeping up of a proper system of accounts. In many instances this is because they detest book-keeping and do as little of it as they possibly can. Even if they are not against it by disposition, they find their time so broken into during the hours they keep open that the work is done in a series of spasms.

A case in point was the experience of one who sold a small dealer a bill of goods, and a month after called to collect the account. The dealer is a hard worker, thoroughly at home at the lathe or at the bench, good at selling bicycles as well as making them, and does a fairly big trade. He is good pay, and adds a little each year to his bank surplus.

But his account keeping is the most primitive for the amount of business he does. His entire office consists of a common sloping pine desk, which is so covered with the accumulation of papers that it would seem the addition of only one more sheet would send the entire lot sliding off to the floor. Hanging on the nearby wall are a few wire hook files on which is another accumulation of papers supposed to represent letters and invoices that have been transferred from the

desk when answered or paid, respectively.

When the statement mentioned was presented and a check requested, the reply was given that it had been paid, so the receipt was asked for. First he hunted out a book that contained a list of payments made; not finding it there, he turned to a receipt file and turned over several hundred, the accumulation of two or more years. Failure again caused an attack on the bunches of wire-hooked invoices in the same manner and with the same result. Then he transferred the accumulation on the desk to a nearby bench, and couldn't find it there nor in his pockets. At last he explained that it was probably home, where he frequently made out checks.

Had the creditor not known his customer's reputation for prompt pay he might have looked upon the whole proceeding, particularly the final explanation, as an attempt to put off, but previous experiences had taught him the sincerity of his customer.

From this experience, and it is not an isolated instance, it occurs to one that where from disinclination or disability a dealer does not keep regular accounts, that he can adopt the same means to keep his accounts straight that his customers do to keep their machines in order. They don't attempt repairs for the same reason he don't keep books, therefore they come to him.

Undoubtedly some one among his customers is more or less versed in bookkeeping, and the job could be let out to that person for a merely nominal sum for the season. Time would be saved that could be profitably employed in congenial work, in the matter of keeping records, and further time would be saved in being able to turn to a properly posted account in case of dispute with either creditor or debtor.

The Weight of the Rider.

If the principle could be established, to the point of general recognition, that the efficiency and reliability of a bicycle is largely dependent upon the weight of the rider, then a change in the weight of bicycles for light riders might be looked for with some certainty. Unfortunately, under the circumstances, made absolute by the buyers themselves, when a bicycle leaves the maker he has not the slightest idea whether it may ultimately fall into the hands of a clumsy rider weighing 190 pounds or a careful one of 120 pounds.

To be on the safe side, therefore, the machine has to be made heavy and strong

enough to meet all the demands that may be made upon it. Consequently, and as a matter of course, the careful rider is penalised with an amount of weight that is unnecessary from his strictly viewed standpoint.

On the other hand, in addition to the rider's actual weight, muscular strength is another factor that must be given consideration in construction. A rider may weigh but 140 pounds and yet possess strength to a much greater degree than a rider of far more weight, therefore to obtain the same mede of efficiency additional strength, which means additional weight, has to be provided to meet the increased strain which a powerful rider may bring to bear on a bicycle.

There are other factors which could be considered from a strictly technical standpoint, such as crank length and the ratio of sprockets, but as these latter are generally standard in this country they do not enter into actual conditions beyond a known quantity made possible by their very standards.

Firmness With Knowledge.

It is said that many agents who have sold motor bicycles this year have been almost worried to death by the complaints of their customers. Some of them can scarcely be kept off the doorstep. Every little failure is made the cause of a complaint, and the unfortunate agent is sought to be held responsible. Unless he is a man of determination he will be almost forced into doing a lot of work about the machine for which he will not receive a cent in return.

In 99 per cent of the cases the blame is due to the ignorance of the owner, and the agent would be quite justified in refusing to adjust the machine unless paid for it. If he delivers the machine in good order he should be responsible for nothing further, except in the rare event of some part having gone wrong through a defect in the material or manufacture.

There is another side to the affair, however. Many agents have taken up the motor cycle trade without gaining any practical experience themselves in the care and management of the machines.

Just as with the motoless bicycle, it is well to assume that goods are occasionally sent out that have been skipped in some part of the inspection in the rush of orders. It is not contended that this is as it should be, but it is a recognition of matters that do occur in all lines of business.

If a motoless bicycle should be found when taken out of the crate to have its hanger bearing poorly adjusted, a loose wheel or a

chain too tight or too loose, the agent would think nothing of putting matters in shape before putting the machine on the floor, much less before delivering to a customer.

So it is with the motor bicycle. It should be inspected and tried when received. For this reason the dealer should familiarize himself with the motor bicycle. When he first commenced to handle the motoless machine he had to learn how to look it over. The knowledge did not come like that of breathing, instinctively, there had to be thought, study and trial.

We have occasionally heard the specious plea on the part of a dealer that motor bicycles cost many times more than its prototype, and for that reason he could not afford to buy a sample to learn from. To reason thus, he must be young indeed in the business, as dealers who have come down from ten or a dozen years ago remember that prices to them at that time were but little more than to-day's prices to them in motor bicycles.

Dealers of those days afforded samples to learn and to sell from, and the demand for bicycles in those days was, if anything, even less than is the demand for motor bicycles to-day. Moreover, there were not the many outside causes leading up to the sale of and interest in the motoless bicycle of 1890 that there are leading up to the motor bicycle of 1902. Previous experience with bicycles and the ever present motor vehicle has given a fillip to the present conditions that were unknown in those earlier days.

Therefore, the bicycle dealer of to-day should teach himself to know that the motor bicycle delivered by him is absolutely right in the first instance, then there will be comparatively few after failures, and the owner can be treated with firmer and better reason when he makes senseless complaints.

When we consider the extreme lightness of the majority of chains now in use and observe the really insignificant number of breakages that occur nowadays, we cannot help giving chainmakers a lot of praise for their good work. There would probably be almost as many mishaps of this kind now had not chain quality been materially improved. Better workmanship and stock have nearly all to do with the change.

Enclosed please find renewal of my subscription to the *Bicycling World*. I would not be without it; it is both instructive and newsy."—L. J. Tepper, Lawrence, Mass.

WHAT JOBBERS WANT

(Continued from page 620.)

Co. and E. A. Brecher & Co., New York; Hanna Cycle Material Co., Rochester Rubber Co. and Sidney B. Robey & Co., E. H. Hall Co., Rochester; H. R. Olmstead & Co. and F. C. Howlett & Co., Syracuse; J. Strauss & Co. and Kelsey Co., Buffalo; Albany Iron & Hardware Co., Albany; Utica

Falls; Treman, King & Co., Ithaca; D. S. Brown, Watertown.

Bicycle Manufacturers.

George N. Pierce Co., E. R. Thomas Motor Co., John R. Keim, Day Manufacturing Co., Globe Cycle Co. and William Hengerer Co., Buffalo; Bretz Cycle Manufacturing Co., Stearns Bicycle Agency and Frazer & Jones, Syracuse; H. P. Snyder Manufacturing Co.,

A Tire Quartet—Gilson, Kelly, De Silva, and Woodard.

ware & Iron Co.; — Carroll, Utica Cycle Co.; — — Wilson, New York. H. L. Hall, the president of the association, was the most notable absentee; illness prevented his attendance.

Those in attendance who represented the manufacturing interests were as follows: Charles Glover, Charles H. Parsons and W. J. Surre, P. & F. Corbin; W. H. & W. A.

Whittington hails a Car.

J. Henry Sager.



C. E. Munroe.

The Coaster-Brakes Contingent—W. A. Graham, Chas. Glover, W. H. Graham, F. F. Weston.

Frank Mossberg.

Cycle Co., Clark, Horrocks & Co. and C. H. Childs & Co., Utica; J. A. Rickard & Co., Schenectady; Elmira Arms Co., Elmira.

Eligibles.

M. Hartley Co., Schoverling, Daly & Gales, Broadway Bicycle Co., Jandorf Cycle & Automobile Co. and Manhattan Storage Co., New York; Weed & Co. and F. F. Rick & Co., Buffalo; W. A. Doubleday Co., Syracuse; Crocker & Ogden and Callahan & Douglas, Binghamton; Budd Bros., Glens

Little Falls; Remington Arms Co., Ilion; Empire State Cycle Co., Addison.

The jobbers present were: A. E. Brion, P. A. Frasse & Co., William Spalding, Syracuse; C. L. Kelsey, Buffalo; Harris Parker (C. B. Barker & Co.), New York; Charles W. Leng, New York; W. S. Roby, Rochester; J. N. Willys (Elmira Arms Co.) Elmira; G. A. Rickard, Schenectady; E. J. Willis, New York; H. R. Olmsted, Syracuse; F. A. Howlett, Syracuse; — — Turner, Albany Hard-

Graham and A. F. Rockwell, New Departure Manufacturing Co.; Frank F. Weston, Barwest Coaster Brake Co.; Ralph D. Webster, Eclipse Manufacturing Co.; J. H. Whittington, Forsyth Manufacturing Co.; Frank Mossberg and C. E. Munroe, Frank Mossberg Co.; E. S. Ludlow, Federal Manufacturing Co.; M. J. Horton, Liberty Bell Co.; J. H. Sager, Regas Vehicle Co.; S. G. Rig-J. N. Willys (Elmira Arms Co.), Elmira; J. Woodard, Diamond Rubber Co.; C. F. U.

Kelly, Pennsylvania Rubber Co.; J. Wilder Gilson, Hartford Rubber Works Co.; W. S. Dowse, G. & J. Tire Co.; H. De Silva, International Automobile & Vehicle Tire Co.

The conflicting products, policies and prices represented in the joint conference is disclosed by the names, and, as each concern represented was called on for an expression of opinion, that there was some trimming of opinions may well be imagined. But there were nevertheless some forceful expressions, Messrs. Parsons, Turner, Graham and Olmstead being credited with speeches that "caught the house." Olmstead is understood to have let fall a remark that roiled Graham, who retorted with an address that is described as the fieriest speech of the meeting.

Without exception, however, all the makers' representatives present joined in supporting the jobbers' resolution; a few were guarded in what they said, but the great majority were unreservedly favorable. Sam Rigdon, of the Goodyear staff, was one of later and summed up the situation almost epigrammatically.

"It simply requires courage on the part of the jobbers; some resignation on the part of the manufacturers," he said.

When the general expression of opinion had been elicited, the consideration of the several lists was undertaken and the several interests represented separated for communion. The coaster brake men returned with three additions to the list and the additions were accepted. The tire representatives made neither additions nor subtractions, and the Goodyear, Pennsylvania and International men pledged the support of the respective companies; the others were present without authority to do so and were obliged to report back to their principals.

Despite the several and long discussions and several amendments and after the resolution had been agreed to, it developed a "joker." At the eleventh hour some one discovered that it bound manufacturers to sell only to those named on the lists; the words "at jobbing quotations" had been omitted. The discovery caused a mild stir, but the omission was speedily explained and rectified.

As finally drafted, the resolution and lists will be forwarded to all manufacturers of bicycle supplies for action. It is expected that it will require about thirty days in which to obtain their responses and for that period the members of the Jobbers' Association have agreed to refrain from placing contracts. It is possible that another meeting will be held about that time.

Communications from jobbers in several other States who were in sympathy with and desired to join the New York movement brought about the appointment of the committee on national organization—Messrs. Willis and Olmstead.

A. E. Brion was made chairman of the committee on credit system and given power to select his associates.

The following who were not present conveyed written assurances of their sympathy and support of the objects of the meeting: Morgan & Wright, National Cement & Rubber Manufacturing Co., Bridgeport Brass Co., Hine-Watt Manufacturing Co., Manhattan Brass Co., Twentieth Century Manufacturing Co., Badger Brass Manufacturing Co., B. F. Goodrich Co., India Rubber Co., Veeder Manufacturing Co., Tucker Bicycle Wood Work Co., American Wood Rim Co., American Cycle Manufacturing Co., John R. Keim, Riggs-Spencer Co., Kelley Handle Bar Co., Fauber Manufacturing Co., Crosby Co., Standard Spoke & Nipple Co., C. J. Iven & Co., Stevens & Co.

AROUND THE HUB

How "Papa" Weston and his "Children" Again Made the Historic Circuit.

It was a hardy, grizzled looking set of oldsters, and a right jovial crew withal, that were assembled at the old rendezvous in Boston on Friday morning last for the 1902 repetition of the 1879 "Wheel about the Hub." Not that all wore an ancient appearance by any means. No one looking at Judge Dean, for instance, would have assumed that he was one of the pioneers of cycling, or that he had four sturdy boys in the junior list of the Boston Bicycle Club. And President Hodges, with his infectious laugh, looked but little older than when in '78 he nightly flew (it is called "coasting" now) down Codman Hill, with his club behind him, on his way to the Blue Bell, at Milton. Even "Papa" Weston, in spite of the "siders" which he has lately been allowing to grow, looked not one whit the less fit than the youngest of his "children" who greeted him—and they came from near and far—Captain Kendall, from San Francisco, and "Teddy" Rothe, from only a few blocks away, to lend their presence and to help and to share in the enjoyments of this the only surviving annual function of oldtime cycling.

When the captain called his "All up" and the cyclists, including Will Pitman on a Kelecom motor bicycle, were mounted, and the automobiles—five of them—were lined up in the procession, a careful count showed that there were forty-seven participants in all, the largest number since the initial run, which in 1879 proved to the American people that the bicycle was a practicable vehicle of locomotion, and not the mere toy that the ignorant thought it was or that its detractors accused it of being.

The usual queen's weather was in evidence as the cavalcade wound at moderate speed into Humboldt avenue, across the parkways, and so on through West Roxbury and Dedham, until at noon the "Grove of Pleasant Memories," at Readville, was reached, and an interval of sufficiency was devoted to discussing a portion of the contents of certain ice enveloped barrels which Caterer Hendrie had tapped and waiting. Then came the baseball game, with George Wright on Historian Everett's side—which, of course, won—and then the picnic lunch under the pines and the postprandial photographing, until at about 3 p. m. the mount was called and the party wheeled merrily to the base of Blue Hill, where an hour's halt enabled them to climb to the summit and enjoy the superb view. Another halt at Riders' Rest for shandygaff, and at Canton, so that everybody should get the chief operator, Miss Conlon, to call up everybody for telephone talk with every one else (so it seemed) that they knew, and yet another halt at Cobb's Tavern to enable each to

shake hands with Miss Gertrude Cobb, the club's vivandiere, and then in close order, two by two, the short, steep pitch to Massapoag was climbed, and the first haven of rest for the night was reached.

There were many exercises preceeding the dinner, and Landlord Boyce never set out a better one before a hungrier party. But at last forty chairs were filled, and there came a season of gastronomical enjoyment. President Hodges, when advised by "Papa" Weston that his "children" had eaten as much as was good for them, called the meeting to order and invited all to remain seated while the club members held a special meeting. The secretary then read a resolution of sympathy to the bereaved mother and sister of one of their best loved comrades, Mr. Henry W. Robinson, who had lately been taken from them, which was carried unanimously, and the special meeting adjourned. President Hodges, in his usual happy way, then proposed the toast of the evening, "The Boston Bicycle Club," and called on "Papa" Weston to respond. Mr. Weston in his remarks asked pardon if there was any too obtrusive air of superiority in his bearing, but explained that if so it was due to the fact that he was the only living man who could say that he had been present at every "Wheel about the Hub" since and including 1879. Further than that, he had on his shoulders at that moment the very same jacket that he had worn on that never to be forgotten occasion. Then came other speeches, most interesting to the listeners, until President Hodges called a halt and adjourned the meeting to the parlor, where a delightful musical feast, including, of course, Tom Hall's "Philadelphia in the Morning" was enjoyed.

The morning of Friday opened cloudily, but all were up betimes, and at 9:30 the wheels and automobiles filed past the well filled, handkerchief waving piazzas, and the second day's journey was begun. The usual halts at Miss Cobb's and at Miss Conlon's were made. Shortly before noon Cedar Lodge, President Hodges' shooting box, on the shores of Ponkapoag, was reached. Then the swimmers disported themselves, while the others looked on or assisted at various mysterious ceremonies inside the "box" until the time for the gahering around the barrel under the old oak tree. The ceremonies here used up the balance of available time; then the mount was called, and finally, after a most delightful run in spite of three showers, during which each had to seek the nearest shelter, the party dismounted at Kimball's, at Pleasant Beach, Cohasset, and the second day's journey was over.

And then the next morning, when the survivors from Cohasset and the survivors from the Kendall hospitality of the previous afternoon all met at Squantum Kennels again and toasted Mrs. Kendall, and the Captain, and then each other, and everything else, including the Captain's dogs—which seemed to offer reasonable excuse—what pen can do it justice? Certainly not the present historians.

Among those who made up the party were A. Nickerson, George Wright, E. C. Hodges, F. W. Weston, T. H. Hall, Will R. Pitman, George F. Steele, T. Rothe, E. F. Kelley, J. B. Kelley, W. F. Libbey, Dr. O. F. Wyman, F. B. Wilde, Theodore Winsor, E. Denham, E. G. Whitney, N. Heath, W. B. Everett, J. J. Feicit, W. G. Kendall, Dr. F. H. Willard, J. A. Hendrix, G. W. King, W. H. Edmunds, W. F. Stevens, J. F. Powers, C. C. Ryder, S. M. Turner, C. E. Duryea, M. M. Belding, jr., A. W. Robinson, Allen Swan, F. H. Rhymer, J. S. Dean, Dr. H. A. Baker, Judge Burke, Dr. A. W. Branigan and W. H. Abermeyer.

EXPLAINED IN PART

Further Delving Into the Mysteries of Combining Air and Gasolene.

Reading about the mixture mystery in the *Bicycling World* of Sept. 4 has caused a motorcyclist who is in the transition stage to give some consideration to the curious fact that more air is required to provide a correct explosive mixture when the air is seemingly drier and more suitable for its purpose. As the outcome of a little direct thought, some experimenting was indulged in. It had always puzzled him to know why the air valve should require to be open to a less degree at night time, or in humid atmosphere, whereas when the air is hot and dry much more of it has to be admitted.

This seemed like cutting off the supply of oxygen just when it was most wanted, and giving an increased quantity of air at a moment when that air was already rich in oxygen. But the result of his experiments would go to show that this line of thought had not been the correct one, and the new one was gased upon the question of rapidity of vaporization of the gasolene, and the effects of different qualities of atmosphere upon that rate of vaporization.

The theory that was evolved was this: Taking gasolene of normal density (.680 at 60 degrees Fahrenheit), its capacity for vaporization would vary with the variation of atmospheric density. If the air passing into the carburetter were dry and warm, the gasolene would vaporize more rapidly than if the air were humid or cold. This being so, it would come about that on a hot summer's day the air passing through the carburetter would come off exceedingly rich in vapor, and consequently, would require a greater volume of air to be mixed with it before an explosive mixture would be formed.

Concursively, if the atmosphere be heavy and humid vaporization would be checked, and so less additional air would be needed. And here the mixture tap would seem to serve a double purpose. With every movement of the tap two things are effected.

When moved in one direction the orifice through which air passes is opened, but, at the same time, the orifice admitting the gas is closed. When the tap is moved in the opposite direction, the gas orifice is opened and the air orifice is closed. So when the air is cold or humid the effect of partly or wholly closing the air tap would be to cause more air to pass direct to the carburetter, because the suction of the engine (with any given position for the throttle valve) is always the same.

If this theory were correct, then stale (or dense) gasolene, as it is slow to vaporize, would require the air to be sucked through the carburetter instead of being added at the mixture tap, and there should be some effect through closing or opening the vent admitting air to the carburetter.

Working on these lines, he filled his tanks

with gasolene which has been in stock for a couple of months, and which showed a reading of .690 with the densimeter. Then he went for an eighty miles' ride, and found that from the very start the air vent was only half open, while toward the end of the day it was practically closed. He then took another reading of the density and found it well over .705. There had been occasional misfiring for some time, and this was not to be wondered at. Next morning the experiments were continued.

The gasolene in the carburetter was now pretty low; it showed a density of .710, and very little air could be admitted through the vent. The explosives were at times fitful and lacked power. Obviously the gasolene was too stale, and was vaporizing, but slowly, and the seeming rapid deterioration was accounted for in this way: When the density was first taken, gasolene was poured out of the can, and, consequently, from the



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

top of the bulk; but when some was drawn off from the carburetter it was taken from the bottom, where the heavier grade would settle.

And it was this heavy gasolene that was being used on that morning. Then the old gasolene was emptied away and the tanks filled with fresh, which gave a reading of just under .685 (at 56 degrees Fahrenheit), and the difference in results was wonderful. The air had to be opened almost to the full, there was a crispness about the explosions, and the machine ran as differently as possible. At the end of the day the air orifice was still open to about a quarter of its size, and the gasolene (from the bottom of carburetter) showed a density reading which, after correction for difference of temperature, was about .005 heavier than when first placed in the tanks. And during the day there had been an entire absence of misfires, nor had the mixture required such constant attention as had been necessary on the previous day.

This experiment largely went to show that it is the rate of vaporization of the gasolene

which controls the position of the mixture opening, and not entirely the quality of the air which is admitted; the latter, in fact, being just the final adjustment by the driver after the "coarse" adjustment has been made by the engine sucking air through the gasolene in the carburetter.

The experiments will be continued to determine the effects of modification of the amount of air that can pass into the carburetter through the opening, both separately and in conjunction with alterations of the mixing lever. The first experiments were carried out during the course of a run, and the first part of the journey on the stale gasolene gave him his first experience of the engine running unsatisfactorily. Knowing what the cause was, there was no occasion for worry, but had he not taken the density of gasolene, but had used it, thinking it was quite fresh, he should have blamed everything but that. The mixture would alter every few hundred yards, and it was almost necessary to keep the hand on the tap the whole time, constantly altering and adjusting it. It seemed (or would have done so) that the inlet valve was sticking, that the battery was weak, that the sparking plug was foul, and that the compression was poor, and a lot of time could have been wasted in looking to each and every one of these assumed defects. So it is obvious that a densimeter is a useful instrument to possess.

The Cost of Cycling

To the Editor *Bicycling World*.

Sir—Having read with interest an item headed "How Much Per Mile," in the September 11, 1902, issue of the *Bicycling World*, and being in the heavyweight class myself (ranging from 195 to 212 pounds), I quite naturally commenced to figure how much per mile it cost me to ride a bicycle.

I purchased an Adlake, with 30 inch wheels, fitted with Hartford No. 80 tires, from the manufacturer's agent here, and have been riding it for the last four seasons, during which time 25 cents would cover my total expense for repairs—spokes ripped out by a would-be cyclist. I find that my riding on this wheel has cost me less than 2-3 cent per mile, and, outside of a few scratches on the enamel and a little rust on the bright parts, due to ill use or abuse on my part, I fail to see wherein my bicycle is not just as good as it was the day I purchased it, and I have used it in all kinds of weather. I shall be very much surprised if it does not stand up under me long enough for me to at least duplicate the mileage I have already ridden it. The construction of this wheel leads me to believe that the maker of it was in some way associated with the manufacture of the "Wonderful one horse shay, that run a hundred years to the day," as a friend of mine has run up more than three times as much mileage on his as I have on mine.

Boston, Mass. FRANCIS G. GIBBS.

"The Motor: What It Is and How It Works." See "Motocycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ***

THE ISSUE JOINED

Ticket Filed That Will Decide Whether L. A. W. Will Awaken or Slumber Deeper.

Whether the members of the League of American Wheelmen are content with the apathetic, do-nothing, backsliding conditions that have prevailed during recent years will be decided next month. The effort to reinvigorate the organization and to restore at least some of its power and usefulness is being made in the New York Division. The effort took formal shape on Monday last, when the independent ticket, which represents the reinvigorating element, was filed. The candidates named were as follows:

For chief consul, Joseph Oatman, of New York; for vice-consul, R. G. Betts, Brooklyn; for representatives, First District, George C. Wheeler, Will R. Pitman, E. Lee Ferguson, M. L. Bridgman, Charles E. Miller, F. B. Bradley, New York; Second District, R. J. Wulff and H. P. Macrery, Brooklyn.

The independents are making no fight against the present secretary-treasurer, John F. Clark, and through a misunderstanding which delayed the mailing of necessary letters, the nomination of some seven up-State candidates for representatives, who had been chosen, could not be effected in time to be legalized. The New York and Brooklyn

nominations are, however, sufficient to constitute a majority of the State Board of Officers.

The regular nominations have also been filed, and are as follows:

For chief consul, C. J. Obermayer, Brooklyn; vice-consul, W. M. Thomas, Albany; secretary-treasurer, John F. Clark, Princess Bay; representatives, First District, Ewen McIntyre, jr., Rudolph Hepp, Dr. F. L. Munsell, Fred S. Wells, George C. Pennell, W. H. Hale; Second District, G. T. Stebbens, N. S. Cobleigh, H. M. Valentine; Third District, C. F. Smith; Fourth District, S. Allen Mead; Fifth District, E. V. Sidell; Sixth District, C. P. Hermance; Seventh District, Sanford V. Cole; Eighth District, J. D. Chism, jr.; Ninth District, De Lancy Watkins; Tenth District, C. A. Ormsby; Eleventh District, C. E. Thompson; Twelfth District, Dr. Ira M. Comstock; Thirteenth District, Theodore Coles; Fourteenth District, B. W. Burleigh; Fifteenth District, Ralph D. Webster; Sixteenth District, E. P. Gardner; Seventeenth District, F. J. Amsden; Eighteenth District, Max M. Oppenheim; Nineteenth District, C. Lee Abell; Twentieth District, C. Mortimer Brown.

The election occurs next month, the rules requiring that the ballots be mailed between the 15th and 20th of October.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

Motor Bicycles on the Track.

On Aug. 29 London's famous Crystal Palace track saw an array of motor bicycles that gave good testimony to the interest taken in motor bicycles, in the meet for that machine organized by the Automobile Club. There were three events: an hour scratch race, open to any type of motor-cycle, in which there were 18 entries; a five-mile handicap, with 23 competitors, and a ten-mile handicap, with 20 starters.

In the first event there was one tricycle, an 8-horsepower affair, with the balance of the competitors on bicycles ranging from 3 1-4 to 2 1-4 horsepower. After the first half hour the race narrowed down to three riders, all on 2 1-4 horsepower machines. With one two laps in the lead. This same rider, J. van Hooydonk, proved the winner, covering 42 miles 290 yards in the hour and lapping his field four times.

The handicap races have raised protest and adverse comment from all sides. The handicapping was framed according to the size of the bore and stroke on the ruling of the promoting club. But what method was used under this ruling no one seems to know, and the English cycle journals, with their usual indifference to detail, furnish no clew. The results are without interest, as the times for the winner are given without the distances allowed in the handicap. The only explanation offered of the handicap is by the handicapper, who writes the handicaps were "framed on a basis of 1-12 per mile for a 4 1-2 horsepower down to 2-5 per mile for a 1 1-2 horsepower"; whatever that means.

THE PENNSYLVANIA RUBBER CO.

HAVE A

PROPOSITION OF UNUSUAL INTEREST TO JOBBERS

FOR 1903.

Write for Particulars.

ERIE, PA.



Model 16. Price, \$1000.

WOULDN'T IT MAKE YOU GLAD

to get a **TONNEAU MOTOR CAR** at the price of a runabout, and one that is just as good as the high-priced cars, and get it with as much saving of time as you save dollars?

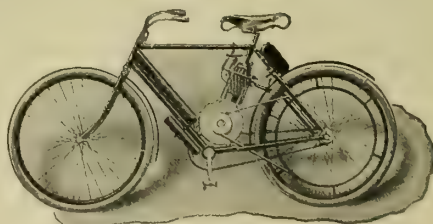
You get all this when you buy the **BUFFALO TONNEAU**. It is a car specially designed to meet the great demand for a really comfortable, roomy car, provided with plenty of power to go practically anywhere without trouble. It is constructed with a long wheel base, making the car exceptionally safe, and is very easy to manipulate, owing to the absence of complicated mechanism.

E. R. THOMAS WORLD'S RECORD MOTORS

Took the only Gold Medal in the recent Fifty Mile Consumption Test held in New York.

BUFFALO TONNEAUS HAVE THOMAS MOTORS.

THOMAS "AUTO-BI."



Model 4. Price, \$175.

" 3. " 150.

BUFFALO AUTOMOBILE & AUTO-BI CO., 1190-1200 Niagara St., Buffalo, N.Y., U.S.A.

BOSTON OFFICE, 174 Columbus Avenue.

NEW YORK OFFICE, 29 West 42d Street.

RACING

Six thousand spectators saw in the races at Vailsburg, September 14, some novel and exciting features. In the unknown distance race for amateurs the conditions were that no one knew its length before the last lap. After the start the referee drew a sealed envelope from a hat, which named the distance. At the beginning of the last lap the riders were instructed a pistol would be fired, and this kept them close together until the signal. The distance that happened to be drawn was four miles. At the gun A. Beyerman was in the lead with J. P. Lindley second, and Hurley and Glasson back in the ruck. Lindley was in a good lead, and started to make a runaway of it. At the same instant Hurley and Glasson set sail; they did not catch Lindley until the last turn. In the brush up the stretch Hurley beat Glasson a half length, and Lindley was an open length back. Time, 9:03 3-5. In the professional novelty race, which was at five miles, there were substantial prizes to first, second and third at each mile, with increased money at the finish, and the usual intermediate lap rewards. This gave four good mile scrambles, with a fine one between Fenn and McFarland at the finish, in which the former outrode the latter in the sprint up the stretch, and won by half a length at the tape in 10:49. Kramer, who was paired with McFarland, dropped out from a puncture in the preliminary lap of the flying start. "Plugger Bill" Martin, whose last appearance it was in this country previous to his return to Australia with Frank Beauchamp on the 17th, fell in the fourth mile, and was cut and bruised, but not seriously. The half mile professional handicap was captured by Walter Bardgett, with 50 yards start. Bardgett cut out a stiff pace, and Moran and Hadfield, who were next in line, refused to go after him. Martin, from the 40 yard mark, made an effort to overtake Bardgett, but could not cut down the big lead. Of the back markers Fisher fared best, finishing second, with Stevens third and Krebs fourth; time, 0:59 3-5. In the mile handicap for amateurs D. G. Quelle, with 80 yards, beat Hurley out in a dingdong finish; Walter Haggerty (60 yards) third, Billington (scratch) fourth; time, 2:01 2-5.

The hour record of nearly 47 miles, which marked Michael's return to the cycle path, in Paris on Sept. 7, after his second failure to make a jockey of himself, proves to have been a sensational performance. It was made not against the watch, as was first supposed, but in a gruelling hour race against some of the best men in Europe. The event was decided on the Parc des Princes track, Michael, Bonhours, Conteuet, Lesna and Jacquelin being the starters. At the gun Michael took the lead, but was passed in the second lap by Conteuet. Michael made strenuous attempts to pass him, but the latter continued to hold his position, and at 10 kilometres had broken Lin-

ton's record by 3-5 of a second. Jacquelin was lapped, and shortly afterward withdrew from the race. At 20 kilometres Conteuet still led, making the distance in 16.05, against Linton's record of 16.10 2-5 for the same distance. Bonhours was lapped at this time by both leaders, and Michael, in a splendid spurt, passed Conteuet. The 40 kilometres were reeled off by Michael in 31.50 3-5, smashing Linton's record of 32.03 1-5. After being passed by Michael, Conteuet endeavored to regain the lead, but his pace was giving him trouble. Bonhours in the meanwhile was riding strong, and, closing up, took second place. The 60 kilometres were done in 48.03 3-5 and the 70 kilometres in 55.55 4-5, both under the world's record. Continuing Michael finished the hour with 75 kilometres 273 metres, or 46 miles 1359 yards, to his credit. Bonhours second, Conteuet third and Lesna fourth.

Despite the highly sensational reports that have been published regarding the condition of Munroe and Hunter, who were severely injured in a paced race at Baltimore, September 12, it is more than possible that both will recover. The accident occurred in a fifteen mile single paced race. Those who were in the race were Joseph Nelson, paced by A. Bennett; Ben Munroe, paced by J. Hunter, and George Leander, paced by F. Sinclair. Leander had won the first heat of the five mile race in 7:16, with Munroe second, and was in the lead in the fourth mile of the second heat. The handlebar of his wheel loosened as Hunter, pacer for Munroe, was about to pass Leander and his pace-maker. Leander's wheel swerved, resulting in the smashup of the wheels of Leander, Munroe and Hunter. The men were hurled with great force into the boxes, sustaining severe cuts, bruises and concussions. A spectator was severely cut in the head by a flying part of one of the machines.

W. S. Fenn, teaming with George Collett, defeated Kramer in the half mile N. C. A. championship races at New Haven, September 10. Kramer led till the last lap, when Fenn outspurred him by a yard in a rush to the tape. Collett was an easy third, and Lawson fourth; time, 1:02. Major Taylor failed to appear. The ten mile professional race was won by McFarland in 23:03 4-5; Bowler second, Schreiber third, and Kramer fourth. W. A. Rutz won the one mile professional consolation; F. S. Beauchamp second, J. T. Fisher third; time, 2:06. The one mile amateur handicap was won by T. P. Linley from scratch; Carl Yuitch (70 yards) second, Ed Stander (30 yards) third; time, 2:05 1-5.

At Boston Sept 17, in a 25-mile race between W. Stinson, J. Moran and O. Maya. Moran won by six laps in 38.12 4-5. In the twenty-first mile Stinson was a mile head of the other men when his wheel suddenly swerved and he sustained a severe fall, breaking his collar bone and receiving a bad cut on his head. M. Hurley won the one-third

mile open amateur in .41 3-5. Kimball second and O'Brien third. In the one-mile handicap the final heat was won by A. R. Urquhart, with a handicap of 85 yards, in 1.59. Hurley, scratch, second, and L. A. Stoughton, 130 yards, third.

The cycling season was brought to a close at New Haven Sept. 16. The Connecticut mile championship was won by W. S. Fenn. The paced race between Freeman and Nelson had to be decided by riding five miles against time. In the first heat Nelson's motor broke down. Freeman won in 7.38. Nelson's time was 7.42 2-5. Nelson narrowly escaped serious injury in the first heat by the belt on his pacing machine coming loose and dragging on the track. Nelson was thrown, but escaped with a few bruises.

Joe Nelson defeated Basil de Guichard by 7½ laps at Providence, September 10, in a twenty-five mile paced race, in 35:54. Nelson gained a slight lead at the start and held it for five miles. Then De Guichard pulled up and was three-quarters of a lap ahead, when his pace balked and he rode two laps unpaced. In addition, he punctured a tire, which put him still further back.

Harry Caldwell won from Walthour at Hartford, September 15, in two straight ten mile heats. In the first heat Walthour punctured a tire in the second lap of the second mile, and Caldwell went three miles more without his opponent before he was called from the track and awarded the heat. The second heat went to Caldwell by nearly a lap, the time being 15:03 1-5.

According to cabled reports, A. A. Chase, the Englishman, reduced the five mile bicycle record to 7:17 1-5 at London, September 13, and rode twenty-one miles in 31:12 4-5. Chase also endeavored to lower his own one hour record, but through the breaking down of his motor pace he was 500 yards short of accomplishing the feat.

The twenty mile paced race between Leander and Munroe at Philadelphia, September 10, again resulted in a disappointment. On the fourth mile Munroe's motor gave out and Leander won by default. The men then appeared in a five mile race, which Munroe easily won by four laps, through Leander losing his pace on the first mile.

A. A. Zimmerman and Harry Elkes sailed for Havre September 4. Both have contracted to ride at Paris during the fall. The former will probably content himself with giving exhibitions on the tracks where he attained such world-wide fame. Elkes will compete in the paced races, the first of which will take place September 28.

Will Stinson was scheduled to ride 25 miles against Walthour at Providence Sept. 18th, but owing to his accident of the night before he was unable to ride and Hugh McLean was substituted. For ten miles McLean held Walthour, but his motor balked badly at this point and Walthour won out by 12 1-2 laps, in 34.45 4-5.

SOME POINTED TRUTHS

Teaching the Use of the Motor Bicycle Makes an Old-Timer Reminiscent.

Editor *Bicycling World*: I think it is a saying that "history repeats itself." I find myself in many ways starting on a very similar experience to what I had, dating back to the spring of 1882, when I first rode a "Star" bicycle. It seems much like a dream to me to think of what I have passed through in connection with the bicycle, both in a pleasure and business way. You may be assured that at least sixteen years of the time were very busy ones with me. From the first I taught others to ride, personally, and in 1884 I published the first edition of the *Star Rider's Manual*; in 1886 the second edition. As you know, I published a monthly devoted to cycling for seven years.

Now I find myself giving personal instructions in the use and care of the motor bicycle, and I am much pleased to say that my first pupil was Mr. F. A. Elwell, of European bicycle tour fame. It reminded me of "Star" days, when I used to work so hard in teaching others to ride this machine. I had to hold them up by running behind them with one hand on the rear end of the seat spring and the other on the left end of the handle bar, doing the steering myself while they were pedaling, and many a time have I got so used up and vexed with stupid learners that I would let go of them, allowing them to run out of the road up over a bank. Of course, the machine would tip up in front, and the rider, not having been instructed in "how to fall," would keep his feet on the pedals and land on his back. This changed the programme, and made a little fun for me and the onlookers.

You would not think it could be possible that I had a similar experience in getting Mr. Elwell started on the motor bicycle, an old motorless bicycle rider like him, who has used some thirty odd machines and been riding the bicycle from its inception, but such was the fact. As he has since told us in print, he thought he could not let alone of the handle bar with one hand long enough to start the ignition, as he had never learned to ride "hands off." He was expecting that the machine would require all of his strength to hold it straight, and that it might run away with him. To tell the truth, he was thoroughly frightened of it. I would not dare tell this if I did not know him well, and that I am sure that I can keep out of his way with my machine when we are out in the country, where I should not have any one to protect me in case he should take a notion to handle me rough for "telling on him." He is doing well now, however, and if those who are to accompany him on his European motorcycle tour next summer do not put in lots of road work on their motorcycles they will get left when he gets after them. I recently made 136 miles with him, most of the distance being over

the worst roads imaginable, and to say that he did well does not express it. He thought he would be obliged to take two days for the trip, but I assured him (but not until we had nearly reached our destination, as he doubted that we could do it all the time) that we would do it easily in a short day's time. So we did; and he was as fresh as a fifteen-year-old boy just up in the morning when we got in. No doubt he will tell you all about it in print some time, for it pleased him so much that he cannot keep it to himself. I am just itching to tell your readers about Elwell's first tumble on the motorcycle, but will not risk it until I see how he takes what I have already said.

I took my first cycling tour with Elwell in the summer of 1883. (He was a very small stripling then, and, if my memory serves me correctly, rode in the ambulance most of the time. Now he is about as large one way as the other, but the same jolly Elwell.) There were thirty-six of us in the party, including "Karl Kron," who wrote up the trip and called it "In the Down East Fogs." I wonder where all of those "old vets" are now? They do not realize what they are missing by not taking to the motor bicycle at once. We were the first with the upright machine, and had the most sport; now let us be first with the motorcycle. Old-time wheelmen will make more skilful motorcyclists than these fellows who have learned to ride since the safety has come into use.

I have been using the motorcycle for the last year with much pleasure, except the first two months with my first machine, which time was not all thrown away, for I learned much about the motor bicycle, if it did cost me lots of good money and very hard work.

The care of a good working motor bicycle is a very simple and easy thing after one learns about it, and the pleasure to be had in riding one is not equalled in any other way. I have used an automobile enough to find out about its pleasure and care. It is not nearly so exhilarating a sport, and the care and expense is twenty times more than the motorcycle, not to mention the depreciation in value of each machine, which in the automobile would be many times more than in the motorcycle. I have run my machine nearly 4,000 miles, mostly over the worst kinds of roads, and the only repair I have had to make was to put in one spoke. It would astonish a rider of a motorless bicycle to follow the motorcycle and see what rough places it will drive through.

I am just back from a 700 mile trip down into the State of Maine and back. I had all kinds of bad roads and weather to contend with, but went through without a scratch or the least hitch in the working of the motor. My average riding time was at least 18 miles an hour. If every old time cyclist could realize the sport there is in motorcycling the manufacturers of the present number of reliable motorcycles could not fill one-tenth part of their orders.

Bicycle dealers, as a rule, are the most stupid! They have not tact enough to see

that they are missing a good thing by not taking hold of the motorcycle at once. They should not wait a moment, but should get some reliable machine, learn to ride it, and show the waiting army of old cyclists, physicians, commercial travellers and others that we have a motorcycle that is a grand success, and the price is within the reach of the middle class. They are just getting left! The business is going into the hands of live up to date men, who know and appreciate a good thing.

To show how some of the present day bicycle dealers look at the motorcycle I will relate one incident that recently happened. I had called to see one dealer several times in a nearby city, where there should be at least twenty-five motorcycles in use now, and there is not one, and at last got him to try my machine. He said it was all right! Had one of his workmen (who, by the way, was interested in having a machine and had told the proprietor that he should have one in stock to show those who were coming around and asking about motorcycles, only to be told that they would get them one if they would give their order) try it to his delight. I could not make the dealer understand that it was to his advantage to order a sample at once, so I told him I would go and look up a party who had been around when I had been there and expressed a wish to have a machine, and that I would try to sell him one. Upon my making this remark the dealer said: "I suppose if you sell him one there will be something in it for me?" What do you think of this, Mr. Editor? Do you wonder that there are no more motorcycles in use at the present time than they are? Bicycle dealers of to-day are not of the class that they were when we used to get a good, honest price for a good machine. They were used more then by men and women of intelligence and sold by the same class. Yours for the motorcycle. E. H. CORSON.

The Retail Record.

Swanton, Vt.—Karl E. Prouty & Co. succeed J. W. Strattard.

Miami, Fla.—Lofton & Johnson succeed W. A. Lofton.

Marietta, O.—R. E. Race moved to 121 Greene street.

Mifflinburg, Pa.—Charles F. Lentz succeeds F. H. Forster.

Columbia's New Manager.

W. J. Mead, former superintendent of the Monarch factory, in Chicago, has been appointed manager of the American Cycle Mfg. Co.'s Columbia plant, at Hartford, Ct., and has already assumed the duties. A. L. Atkins, who was temporarily filling the position, has returned to his office as assistant to President Bromley.

Through the Berkshire Hills Down the Hudson River.

And over the Fall River Line. Boston to Albany, to New York, to Boston. Starting Thursday, Oct. 9. For \$5.00. Secure a descriptive leaflet. A. S. HANSON, Gen. Pass. Agent, Boston & Albany R. R., Boston. ***

The Persons



The
Saddle
for Bicycles
with
good
Reputations
and
for those
that would
have
Reputations
of
the sort.

PERSONS MFG. CO.

C. A. PERSONS, Pres't.

WORCESTER, MASS.

The Week's Exports.

Antwerp.—2 cases bicycle material, \$151.
Amsterdam.—2 cases bicycles, \$70; 1 case bicycle material, \$10.
Bremen.—2 cases bicycles, \$80.
Berlin.—1 case bicycles, \$30; 1 case bicycle material, \$25.
British East Indies.—4 cases bicycles and material, \$561.
British Australia.—29 cases bicycles and material, \$1,137.
British Possessions in Africa.—135 cases bicycles and material, \$3,318.
Brazil.—1 case bicycle material, \$31.
British West Indies.—12 cases bicycles and material, \$483.
Cuba.—1 case bicycle material, \$123.
Copenhagen.—71 cases bicycles and parts, \$1,721.
Christiania.—1 case bicycles, \$35.
Dutch East Indies.—8 cases bicycles and parts, \$879.
Glasgow.—2 cases bicycles, \$50; 2 cases bicycle material, \$25.
Ghent.—1 case motor cycles, \$100.
Hamburg.—1 case bicycles, \$35; 21 cases bicycle material, \$415.
Hayti.—4 cases bicycles, \$40.
Havre.—2 cases bicycles, \$32; 31 cases bicycle material, \$1,715.
Liverpool.—55 cases bicycles, \$1,926; 4 cases bicycle material, \$203.
London.—7 cases bicycles, \$185; 25 cases bicycle material, \$995.
Mexico.—1 case bicycles, \$72.
Rotterdam.—14 cases bicycles, \$150; 24 cases bicycle material, \$620.
Southampton.—8 cases bicycle material, \$899.
Stockholm.—3 cases bicycles and parts, \$113.
Strasburg.—1 case bicycles, \$35.
Trieste.—3 cases bicycles, \$105.
Uruguay.—3 cases bicycle material, \$336.

Going West?

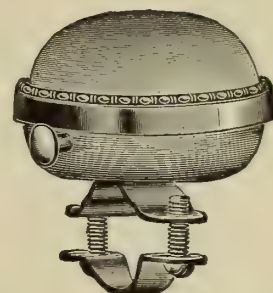
If you purchase your tickets via the Nickel Plate Road, the shortest route between Buffalo and Chicago, you will secure the best service at the lowest rates. Three fast thru express trains daily, in each direction, between Buffalo, Erie, Cleveland, Ft. Wayne and Chicago, making close connections at the latter city with the fast trains of the Western roads. The trains on the Nickel Plate Road consist of elegant vestibuled day coaches, sleeping cars of the latest models, and Nickel Plate dining cars serving famous individual club meals at rates from 35 cents to \$1. Thru sleeping cars are also run from Boston, New York, Albany, Syracuse, Rochester, Scranton, Binghamton and Elmira, and many other Eastern cities.

If your ticket agent cannot give you the information desired, address F. J. Moore, General Agent, Nickel Plate Road, 261 Main St., Buffalo, N. Y. ...

"Defects (In motorcycles) and How to Remedy Them." See "Motorcycles and How to Manage Them." \$1. The Goodman Co., Box 649, New York. ...

Although
not many bicycles
may be purchased
at this season of the year,
there is always
a healthy demand
for bicycle bells
and

Bevin Bells



are the ones with
which it can best
be met.

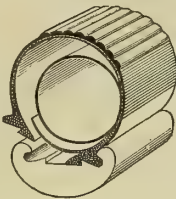
Bevin Bros. Mfg. Co.
East Hampton,
Conn.

Established 1832.

G & J TIRES

MADE FOR THOSE WHO WANT THE BEST.

They are detachable, double tube; are made from the best materials; ride easiest and wear longest. Anyone can repair them anywhere.



Catalogs and Prices on Request.

G & J TIRE CO.

INDIANAPOLIS, U. S. A.

Makers of G & J Tires for Bicycles, Motor Bicycles, Automobiles and Driving Wagons.

HAND AND FOOT PUMPS,

Oilers, Repair Tools, Valves, Name-plates, etc.

Spelter Solder

Sheet Brass, Brass Wire and Rods.

SPECIALTIES to order
MADE OF BRASS.

SCOVILL MFG. CO.

Factories: Waterbury, Conn.
Depots: 210 Lake St., Chicago.
423 Broome St., New York

HIGH GRADE

wheels must have the best equipments.

There is nothing that gives more value for the money than the use of the

MORSE TWIN ROLLER CHAIN



NOISELESS IN MUD, WATER OR DUST AND ALWAYS EASY RUNNING.

The only chain having Frictionless Rocker Joints. Insist on having the Morse Twin Roller. Fits regular sprockets.

Send for Catalogue and Trade Price to

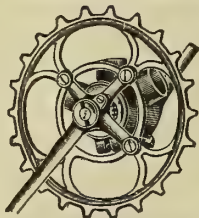
Morse Chain Co., Trumansburg, N. Y.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

JOB LOTS, bicycles and sundries—Spot cash for bargains. LOUIS GIBAND, 6 Woodlawn St., Rochester, N. Y.

WANTED—First class bicycle enameler and repair man. Steady work. F. M. SPINNING, Seattle, Wash.



"D. & J." HANGERS

FOR Single, Tandem, Triplet, Quad and Motor Cycles.
ABSOLUTELY THE BEST

Lightest, Nearest Dust Proof, and Easiest Running Hanger in the World.
Park City Mfg. Co., Inc., Chicago

The Only Tires Fit For Motor Bicycles—

GOODYEAR DETACHABLES

GOODYEAR TIRE & RUBBER CO., AKRON, OHIO

ALL ROADS ARE EASY WHEN THE



STAR BALL RETAINER

IS USED.

With millions in daily use, it has stood the test for more than five years, and is adaptable to ball bearings of any kind.

If you are users of ball bearings we would be pleased to hear from you and mail you our catalog with the latest information, which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.

WANTED.

TO BUY JOB LOTS OF

Bicycles, Tires, Sundries and Fittings.

WRITE US WHAT YOU HAVE TO SELL.

E. P. BLAKE CO., 57 Sudbury St., Boston, Mass.

You all know what the diamond stands for among precious stones. You can't well afford not to know that

D-I-A-M-O-N-D-T-I-R-E-S

occupy the same plane among tires.

DIAMOND RUBBER CO., Akron, O.

THE CROSBY COMPANY,

BUFFALO, N. Y.,

Sheet Metal Stamping.

The 1902 BRECKENRIDGE GAS LAMP

—AND—

The 1902 Light Weight Oil Lantern.

STANDARD BICYCLE LAMPS OF THE WORLD.

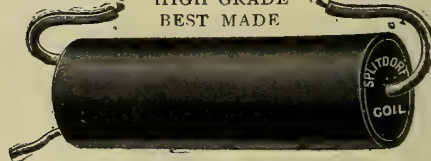
MANUFACTURED BY

THE NATIONAL CEMENT & RUBBER MFG. COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

SPLITDORF SPARK COILS.

HIGH GRADE
BEST MADE



C. F. SPLITDORF, 17-27 Vandewater St., New York

Wolff-American Bicycles.

STEARNS BICYCLE AGENCY,

General Distributors,
SYRACUSE, N. Y.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription to the BICYCLING WORLD for one year, commencing with the issue of.....

Name.....

Address.....

The Week's Patents.

708,565. Belt Stud or Fastener. Frank M. Linderman and Charles A. Binz, Chicago, Ill. Filed January 6, 1902. Serial No. 88,667. (Model.)

Claim.—A belt stud comprising a curved bar 1 provided at its end with T-heads 2, whose lower bearing surfaces lie substantially in line with the top of the bar, said heads being formed with the rounded under edges 3 and intermediate strengthening ribs 4 and having their upper surfaces convexly curved between their upper and lower edges 5 and 6 and from their central portions 7 to their end edges 8, substantially as and for the purpose specified.

708,809. Velocipede or the Like. Walter H. Hayes, London, England. Filed February 18, 1902. Serial No. 94,584. (No model.)

Claim.—1. In a velocipede support, the combination, with a guide bar secured to the machine frame, of a slidable piece mounted on the said guide bar, two legs provided with rollers at their lower ends and having their upper ends pivoted to the said slidable piece, arms pivotally connecting the middle parts of the said legs with the lower part of the said bar, a spring for holding the said slidable piece in its raised position, and a spring which moves the said legs toward each other automatically when the said slidable piece is raised, substantially as set forth.

708,827. Motor Mechanism for Road Vehicles. Edwin Perks and Frank Birch, Coventry, England. Filed June 4, 1902. Serial No. 110,158. (No model.)

Claim.—1. In motor vehicles, the combination of a framework, a motor engine, trunnions projecting laterally from the casing of the engine eccentric to and parallel with the driving shaft of same, means for rigidly fixing the trunnions to the framework of the vehicle to support the motor, a revoluble wheel hub carried in bearings upon one of the motor trunnions, a road wheel felly surrounding and located in the vertical central plane of the motor engine, concave spokes connecting the hub and the wheel felly so that the motor engine is partly contained within the dish wheel, and means for transmitting the motion of the engine crank shaft to the road wheel to rotate the latter, substantially as set forth.

708,953. Pneumatic Tire and Process of Manufacturing Same. John W. Blodgett, Chicago, Ill., assignor, by direct and mesne assignments, to N. Tire Company, Chicago, Ill., a corporation of Illinois. Filed March 18, 1901. Serial No. 51,579. (No model.)

Claim.—1. As a new article of manufacture, a pneumatic tire having the tube of knit fabric embedded therein and its ends knitted together and secured without over-

lapping by uniting the loops forming the ends of the tube by knitting them together; substantially as described.

2. As a new article of manufacture, a pneumatic tire having the tube knit fabric embedded therein and its ends brought together and secured without overlapping by uniting the loops forming the ends of the tube by knitting them together; substantially as described.

708,953. Pneumatic Tire and Process of Manufacturing Same. John W. Blodgett, Chicago, Ill., assignor, by direct and mesne assignments, to N. Tire Company, Chicago, Ill., a corporation of Illinois. Filed January 9, 1902. Serial No. 88,999. (No model.)

Claim.—1. As a new article of manufacture, a pneumatic tire having a tube of knit fabric embedded therein and its ends brought together and overlapped and secured by uniting the loops of the telescoped end with the adjacent loops of the inner portion; substantially as described.

708,954. Tire and Method of Manufacturing Same. John W. Blodgett, Chicago, Ill., assignor, by direct and mesne assignments, to N. Tire Company, Chicago, Ill., a corporation of Illinois. Filed January 9, 1902. Serial No. 89,000. (No model.)

Claim.—1. As a new article of manufacture, a pneumatic tire having a tube of knit fabric embedded therein and its ends brought together and secured by uniting the loops of the ends and having the valve stem passing through the fabric between the ends; substantially as described.

708,967. Machine for Smoothing Rubber Vehicle Tires. Stephen S. Miller and Lee E. Clough, Akron, Ohio. Filed May 14, 1902. Serial No. 107,374. (No model.)

Claim.—1. In a machine of the class designated, the combination of a supporting table feeding guide rolls mounted on said table to force said tire lengthwise along said table, existing means mounted above and below said table placed to engage said passing tires; substantially as shown and described.

"PERFECT"



OILER.

For High Grade Bicycles. The best and neatest Oiler in the market. **DOES NOT LEAK.** The "PERFECT" is the only Oiler that regulates the supply of oil to a drop. It is absolutely unequalled. Price, 25 cents each.

We make cheaper oilers, also.

CUSHMAN & DENISON, Mfrs., 240-242 W. 23d St., NEW YORK

The
**Cushion
Frame**

is
as much a guarantee of

QUALITY

as it is one of

COMFORT.

We permit it to be applied
only to

**High-Grade
Bicycles.**

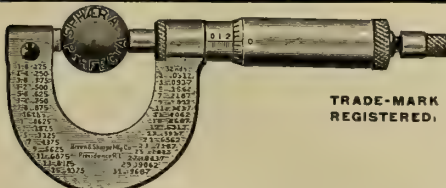
**Dealers and Riders
thus share in
the reward.**

HYGIENIC WHEEL COMPANY,

OWNERS OF
CUSHION FRAME PATENTS

220 Broadway, NEW YORK.

Home Office, Philadelphia.



**STEEL
BALLS**

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

**"MOTOCYCLES AND HOW
TO MANAGE THEM"**

REVISED EDITION

BOUND IN CLOTH

The only Book of the Sort in Existence

CONTAINS A MINE OF VALUABLE
INFORMATION

PRICE, ONE DOLLAR

THE GOODMAN COMPANY

123-125 Tribune Building, - New York City

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of everything. Call on any agent for tickets or address

481 Broadway - New York 435 Vine St., - Cincinnati
601 Chest St., Philadelphia 507 Smithfield St., Pittsburgh
388 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 117 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.



The Authority of the Cycle World

RELIABLE NEWS

ON ALL CYCLING EVENTS
Interesting & Comprehensive.
ADVICE TO RIDERS.

Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Through all Dealers and Newsagents or from the Publishers

ILLIFFE & SONS Limited.

3, St Bride Street, London, E.C.

and HERTFORD STREET, COVENTRY

THE BICYCLING WORLD

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect June 15, 1902.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	8.25 "
" Detroit		3.15 P.M.
" Chicago	11.50 "	

"Chicago Special" has through Buffet Library Smoking Car and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from St. Thomas to Chicago. Both trains run daily and are made up of the most modern and luxurious vestibuled Sleeping Cars running through to Chicago.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence, Waterloo, Webster City, Fort Dodge, Rockwell City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars, free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago,

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all Through trains.

For tickets and information apply at any principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.

The Bicycling World

AND MOTOCYCLE REVIEW.

In which is incorporated "The Wheel and Cycling Trade Review" and the "American Cyclist."

Volume XLV.

New York, U. S. A., Thursday, September 25, 1902.

No. 26

POT BEGINS TO BOIL

The L. A. W. Fight Develops Some Queer Situations and a "Richard Croker."

The political pot of the New York Division, L. A. W., has commenced to boil. Coal was thrown on the fire this week in the form of notice served on the Oatman or independent forces that four of their candidates for State representatives were ineligible for office. The men affected are John B. Uhle, E. Lee Ferguson and Charles E. Miller, of New York, and H. P. Macrery of Brooklyn.

The independents had been prepared to withdraw Uhle, who had become disgusted with the entire organization and tendered his resignation. In the instances of the other three, they allege sharp practice and resort to doubtful technicalities. Ferguson and Macrery were disqualified because their names had not yet been published in the official organ, Miller because it was charged that he had failed to renew his membership. The case of the latter aroused particular indignation, as he holds a membership ticket proving him to be in good standing until May of next year. Miller's colleagues say that if his name is not replaced on the ticket the entire election will be protested.

The rejection of Ferguson and Macrery has brought to light the queer conditions that prevail in the L. A. W. Until very recently the names of all applicants were published weekly in the official organ. For some inexplicable reason, and without notice, this policy was suddenly changed and the publications are now made but once each month. In Macrery's case, his application, filed in the latter part of August, was held nearly one month before being bulletined, his name not being published until yesterday. In Ferguson's case the delay was almost as great.

The queer part of the proceeding is that both men had been in possession of their membership cards for two weeks or more, and had been notified to remit their election assessments.

With the entire election machinery in the hands of the present incumbents, who have renominated themselves, the independents

are naturally at a disadvantage, but they do not purpose submitting without a fight.

"While they question our nominees," said one of them, "we have no means of ascertaining whether their own nominations have complied with all requirements or whether they were filed by Sept. 15. It is significant, however, that while our ticket was given to the press almost as soon as it was filed, the other was not made public until several days later.

"One trouble with the New York Division is that it is pretty much under the thumb of a 'boss.' The man holds no office, and is more automobilist than bicyclist, but he spends more time at division headquarters and seems to have more to say and to exercise as much authority as any of the duly accredited officials; in fact, his bossism is so generally recognized that he is frequently referred to as 'Richard Croker.'"

ORDERED TO HARTFORD.

To-day it came out that orders had been issued that the Eastern Sales Department of the American Cycle Mfg. Co. be removed forthwith to the Pope building in Hartford. The news was confirmed at headquarters and preparations are already making to close the Franklin street establishment. The move is known to have been contemplated before the receivers were appointed, and hence is not wholly in the nature of a surprise.

It was also stated that President Bromley of the company had retired, but this is denied.

"He is still president of the company," said the Bicycle World's informant, "but with the receivers in charge he naturally has no administrative offices."

Dunn's Coastwise Impressions.

Harry T. Dunn, manager of the Fisk Rubber Co., returned to the factory at Chicopee Falls last week, after his annual visit to the Pacific Coast. He was absent two months, during which time he visited all the important trade centers west of the Mississippi, in nearly all of which he found the cycle trade in excellent condition, notably in St. Louis, St. Paul, Omaha, Denver, San Francisco, Los Angeles, Portland and Seattle. In a large number of cases the increase among jobbers was from 25 to 40 per cent., and already substantial orders are being placed for fall deliveries.

FIGURES IN THE CASE

Partial List of American Cycle Mfg. Co.'s Finances—Assets Appear Ample.

The week has brought no developments in the affairs of the American Cycle Manufacturing Co., which last week went into the hands of receivers. Figures only have come to the surface, and these do not disclose the full extent of the company's assets or liabilities. The principal liabilities are, however, summarized as follows:

First National Bank, Chicago, \$75,000; Chemical National Bank, New York, \$57,000; Park National Bank, New York, \$50,000; National Bank of Commerce, New York, \$50,000; Manhattan Trust Co., New York, \$50,000; Hanover National Bank, \$15,000; Hartford (Conn.) Rubber Works Co., \$117,241; G. & J. Tire Co., Indianapolis, \$61,659; Morgan & Wright, Chicago, \$42,625; Federal Manufacturing Co., Cleveland, \$220,667; Federal Manufacturing Co., open account, \$74,000; sundry accounts, \$128,112.

The claim of the American Wood Rim Co., which instituted the receivership proceedings, amounts to but \$2,026.51.

The chief assets are as follows: In New Jersey, \$287,714; Connecticut, \$1,101,271; Illinois, \$995,000; Massachusetts, \$660,170; New York, \$643,500; Maryland, \$200,000.

These figures represent merely the company's factories in the several States named and do not include either the bills receivable or the merchandise on hand, the latter of which in Illinois alone is valued at \$573,646 and in Maryland at \$87,714.32.

Until the receivers finish taking inventory it is unlikely that anything will be done.

Enter the Double-Flexible.

The "Double-Flexible" is the title of a new spring frame which the Sager Gear Co. of Rochester, N. Y., are preparing to bring out. The device is neat and attractive in appearance, and the indications are that it will prove a factor in the business.

Stripped Bicycles Advance.

The price of stripped bicycles has already undergone a sharp advance; it averages about 33 1-3 per cent.

EXCLUSIVE AGENCIES

Question Bobs up Anent Motor Bicycles and One Dealer Airs his Opinions.

Editor of The Bicycling World.

Sir—We are in receipt of a letter from a motorcycle manufacturer whom we represent in St. Louis. We are also representatives for two other motorcycles. One motor cycle is a belt driven machine, driven by a rawhide belt, sells for \$200. Motorcycle No. 2 is a heavy 3 h. p. machine, sells for \$250, driven by a flat belt. Motorcycle No. 3 is a light, 98 pound machine, driven by a chain, sells for \$200. The machines do not conflict in any way with each other, as they represent different types, and it hardly seems probable that a man admiring one could be easily influenced by any one of the others.

Manufacturer of machine No. 1 desires us to handle his machine exclusively, and states it shall be his policy in the future to place exclusive agency, give absolute protection, and to demand that the agent sell his machine exclusively. We have been in the motorcycle business since its inception, and are the pioneer motorcycle dealer of Missouri. We have been through the mill from the machine with the sewing machine belt to the cumbersome quadricycle; have expended many dollars for publications and a great many more for machines and supplies; have paid for and tested out quite a few different machines, spark plugs and accessories.

We figured earlier in the season that we were almost \$3,000 in the hole upon motorcycles and automobiles combined, but we were not discouraged and, although owing some gold bricks, kept trying.

We have finally secured the agency for three machines, which we know are good. Of machine No. 1 we sold two, of machine No. 2 sold nine, of machine No. 3 sold two. We are just beginning to create an interest in motorcycles and to get something for our trouble and energy. We dislike very much to give up agency for machine No. 1, also dislike to give up agency for machine No. 2 and No. 3. It seems a shame, after an energetic and enterprising agent has got three machines and has made a good reputation and spent time and money advertising the same, that he should be forced to hand the agency, reputation and advertising over to a competitor who has done nothing. This is practically what manufacturer No. 1 asks us to do, although manufacturers No. 2 and No. 3 seem to be content to allow agents to handle as many machines as they please.

If manufacturer No. 1 persists in the exclusive agency proposition, will he secure the better class or poorer class of agents? Will a first-class agent with capital be content to tie up with one machine only, and see some of his smaller competitors take business away from him by selling motorcycles which he knows are good and is willing to buy, but is prohibited from so doing

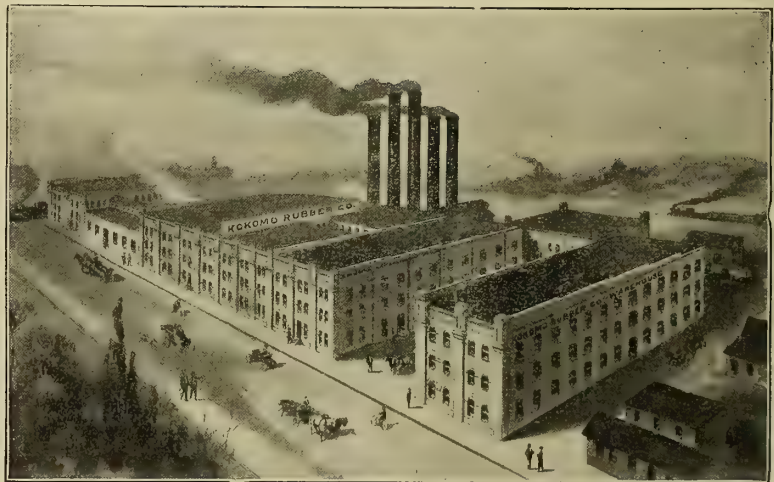
by his agency agreement, or will the manufacturer with the exclusive contract secure the little dealer on the side street, who can only afford to buy one motorcycle, or will the best dealers cancel their agency for machine No. 1 and secure something else to take its place, in order to have a line of motorcycles of various weights, styles and sizes?

Should like to have an expression both from the manufacturer and retail dealer in regard to this kind of proposition. Shall the hustler be tied down to one motorcycle, and is the manufacturer treating an agent right who insists upon this agreement after the dealer has shown so much energy in the early days of the industry, or shall the dealer who has spent time and money and done the experimenting and secured good agencies enjoy the fruits of his enterprise and reap the benefits.

HARRY R. GEER, St. Louis, Mo.

Expansion of the Kokomo.

The Kokomo Rubber Co., which has from a modest beginning and by the sheer goodness



of its tires, expanded until in size and as a rival it is always to be reckoned with, opens the new business season with greater facilities than ever before. During the year they have added not only new machinery to their plant at Kokomo, Ind., but have also erected another wing, which has just been completed. The plant as it now appears is shown by the accompanying illustration. Although of itself a sufficient sign of success, the Kokomo people in announcing the completion of the new plant, add they have had "a most prosperous year and are well pleased."

Surre Starts for the Coast.

W. J. Surre, of the P. & F. Corbin staff, left this week for a tour of the Pacific Coast. That he will add substantially to the demand for the Corbin coaster brake all who are familiar with Surre and with the article itself will be willing to wager.

"Motorcycles and How to Manage Them"; 126 pages, 41 illustrations; cloth bound, \$1. The Goodman Co., Box 649, New York ***

SOUTHERN CONDITIONS

New Orleans's Leading Dealer Speaks Cheerfully—But Low Prices Rule.

Palmer Abbott, of the Abbott Cycle Co., New Orleans, one of the largest and most progressive concerns in the South, has been spending some two weeks in this city, partly for business, partly for pleasure. Abbott is among the dealers who has no fault to find with the cycle trade.

"The demand has been chiefly for low priced bicycles," he said, "but at that our business each month has shown an increase over the corresponding month of last year. We have also had a big year in sundries, which we job throughout the surrounding States and for which we had not a few orders from Central America. A week rarely passes that we do not ship something to that country.

"I do not mean to imply that we have sold no high grade bicycles," he added, "for we

have sold some, and during midsummer had unexpected calls for quite a few Nationals, which we make our leader. Motor bicycles? There are a few in New Orleans, and I am now dickering with the Indian people for territory on that machine."

As showing the utilitarian uses to which bicycles are now being put, Abbott stated that he had sold six of them to a local druggist, who made a specialty of calling for and delivering orders, and who employed five boys and one spare bicycle for the purpose. When it was suggested that this implied a brisk demand for medicine, Abbott smiled.

578 Miles by Rail and Steamer, \$5.00.

Through the famous Berkshire Hills to Albany, down the Hudson River by either day or night boat, thence Fall River Line and N. Y., N. H. & H. to Boston.

Special Annual Autumnal New York Excursion over the Boston & Albany R. R., from all points east of Pittsfield, Thursday, Oct. 9. Send to A. S. HANSON, Gen. Pass. Agent, Boston, for descriptive leaflet. ***

Passed Over Mayor's Veto.

Despite the veto of Newark's Mayor, based on sensible lines, the Board of Works of that New Jersey town has passed the senseless speed ordinance. The ordinance was one which ruled that motorcycles could not run faster than eight miles an hour along the streets, nor more than four miles around corners. It was the opinion of the Mayor that an unjust discrimination was being made, and that the ordinance ought to be consistent with those governing horses, electric streetcars, etc. Among other things, provision was also made that owners must

the Mayor. If the members of the board differ from the Mayor in their opinion, there is no legal question involved."

Power of Personal Letters.

It is not possible to overestimate the value of a personal letter as an advertising medium, says Printers' Ink. In every self-respecting man there must be a measure of egotism. The letter which is written for him and to him personally, most naturally appeals to his—vanity, if you please. He feels that the writer recognizes his worth, or certainly considers him of sufficient importance

Reviving the Vim.

There was a time, a few years since, when Vim tires constituted almost a cycling watchword; they were known wherever bicycles were used. For some reason the advantage gained was not followed up, but with changes that have occurred in the Boston Woven Hose and Rubber Company has come a resolve to once more hoist high the Vim flag. It has been already run up, and the makers of the Vim give out they are in position to again fill any orders and to quote figures that are calculated to bring them to their books.

THOSE PRESENT AT THE ALBANY CONFERENCE OF JOBBERS AND MAKERS.

- | | | | |
|--|---|---|--|
| 1. E. H. Ludlow, Federal Mfg. Co. | 2. C. H. Parsons, P. & F. Corbin. | 3. A. E. Brion, P. A. Frasse & Co. | 4. W. H. Graham, John H. Graham & Co. |
| 5. M. J. Horton, Liberty Bell Co. | 6. J. H. Sager, Regas Vehicle Co. | 7. R. D. Webster, Eclipse Mfg. Co. | 8. W. J. Surre, P. & F. Corbin. |
| 9. Charles Glover, P. & F. Corbin. | 10. C. L. Kelsey, Kelsey Co. | 11. F. F. Weston, Barwest Coaster-Brake Co. | 12. J. N. Willys, Elmira Arms Co. |
| 13. Wm. Spalding, Spalding & Co. | 14. W. A. Graham, John H. Graham & Co. | 15. J. H. Whittington, Forsyth Mfg. Co. | 16. A. F. Rockwell, New Departure Mfg. Co. |
| 17. C. B. Tewksbury, Federal Mfg. Co. | 18. H. De Silva, International A. & V. Tire Co. | 19. C. E. Munroe, Frank Mossberg Co. | 20. Frank Mossberg, Frank Mossberg Co. |
| 21. E. J. Willis, Willis Park Row Cycle Co. | 22. W. S. Robey, S. B. Robey & Co. | 23. H. R. Olmsted, R. H. Olmsted & Son. | 24. W. S. Dowse, G & J Tire Co. |
| 25. C. F. U. Kelley, Pennsylvania Rubber Co. | 26. O. J. Woodard, Diamond Rubber Co. | 27. J. W. Gilson, Hartford Rubber Works Co. | 28. S. G. Rigdon, Goodyear Tire & Rubber Co. |
| | 29. H. C. Lee, Bridgeport Gun Implement Co. | 30. Chas. Gilmour, Fisk Rubber Co. | 31. T. Wilson, Wilson Co. |

register their name and the number of the machine with the County Clerk.

The ordinance was passed after City Council Price had rendered an opinion in which he held that the ordinance as drawn was perfectly legal. In giving his opinion, he said "that the points objected to by the Mayor had been carefully considered before the ordinance had been introduced. He also said that it had been read to the Board of Freeholders and that body had approved it.

"Regarding the first objection of the Mayor's," Colonel Price continued, "in which he declared that fixing a rate especially for automobiles is an unjust discrimination, between the different kinds of vehicles, I would say that it is simply a matter of judgment between the members of the board and

to be addressed personally. Common politeness calls for a reply. If the letter does not win him, it may cause him to state its weakness or his objections. This or these may be met in a subsequent letter. The circular letter has certain advantages and frequently is employed most helpfully; but no circular letter, however happily worded, will bring results equal to those effected by a courteous, common sense letter addressed to the individual.

New Firm in New York.

Henry Allmen & Co., is the style of a new firm, which has begun business at 2,312 Broadway, this city, C. Mankowski being the "Co." They will devote particular attention to motorcycles, the Mitchell in particular.

Automobilists Act Wisely.

Notice has been sent out by the Automobile Club of America that rule VI has been amended by striking out Class D, motorcycles and all other provisions in reference thereto, in the 500 miles' reliability contest, from New-York to Boston, and return. In explanation of its original appearance, it develops that when copy for the rules was sent to the printers, part of last year's rules were sent to the printers also, and the error of including motorcycles was not observed until the new rules had been distributed.

Some dealers report a slightly increased sale of pumps. Riders seem to have become a little more careful and provident in this respect.

The Profit in a NATIONAL is a Net Profit.

THE DEALER DOES NOT HAVE TO WASTE TIME
AND LABOR MAKING FREE REPAIRS.

Manchester, N. H., September 4, 1902.

NATIONAL CYCLE MFG. CO., Bay City, Mich.

Gentlemen:—I have used the NATIONAL Bicycle as one of my leaders for a number of years and am still of the same opinion as I was after my first year with them—that the NATIONAL is one of the best wheels on the market, and *repair shops would close up if they were the only wheels sold.* I shall certainly have them for one of my leaders next year.

Yours truly, ALFRED K. HOBBS.

DEALERS WHO WANT THAT KIND OF A BICYCLE WILL DO WELL TO
WRITE US EARLY ABOUT 1903.

THE NATIONAL AGENCY IS ONE WITH A PROFIT IN IT.

NATIONAL CYCLE MANUFACTURING CO., Bay City, Mich.

“Get Next”

TO THE FACT THAT

FISK TIRES

ARE SUPERIOR TO ALL OTHERS.

RIDE THE FISK AND RUN NO RISK.

HIGHEST GRADE.

FULLY GUARANTEED.

FISK RUBBER COMPANY, = Chicopee Falls, Mass.

BRANCHES:

BOSTON,
604 Atlantic Ave.
SYRACUSE,
423 So. Clinton St.

SPRINGFIELD,
40 Dwight St.
BUFFALO
28 W. Genesee St.

NEW YORK,
83 Chambers St.
DETROIT,
252 Jefferson Ave.

PHILADELPHIA,
916 Arch St.
CHICAGO,
54 State St.

WASHINGTON,
427 10th St., N. W.
SAN FRANCISCO,
114 Second St.

THE BICYCLING WORLD

FOUNDED 1877
and MOTORCYCLE REVIEW

In which is Incorporated
"The Wheel" and the "American Cyclist."

Published Every Thursday
By

THE GOODMAN COMPANY,

123-125 Tribune Building.

(154 Nassau Street)

NEW YORK, N. Y.

TELEPHONE, 2652 JOHN.

Subscription, Per Annum [Postage Paid] \$2.00

Single Copies [Postage Paid] . . . 10 Cents

Foreign Subscription \$3.00

Invariably in Advance.

Postage stamps will be accepted in payment for subscriptions, but *not* for advertisements. Checks, Drafts and Money Orders should be made payable to THE GOODMAN COMPANY.

Entered as second-class matter at the New York, N. Y., Post Office, September, 1900.

General Agents: The American News Co., New York City and its branches.

Change of advertisements is not guaranteed unless copy therefor is in hand on SATURDAY preceding the date of publication.

Members of the trade are invited and are at all times welcome to make our office their headquarters while in New York; our facilities and information will be at their command.

To Facilitate Matters Our Patrons Should

Address us at P. O. Box 649.

NEW YORK, SEPTEMBER 25, 1902.

Despite its twenty-third celebration "The Wheel About The Hub" and the story of it can never grow old. It is the one function that links the cycling past with the cycling present and the cycling present with the cycling future and a future so provided for that it can never die. Years serve but to strengthen the links.

The Touring Side of Cycling.

Whatever the result of the election itself, the present agitation in the New York Division of the League of American Wheelmen is serving the organization a useful purpose; it is again bringing it into the public eye and if the advantage gained is but properly followed up it may result in its rehabilitation.

If the election be favorable to the independents such a result is more likely to be obtained. The present incumbents, who have been renominated, have been tried and found wanting; they have accomplished absolutely nothing and appear barren of ideas. Their opponents, on the other hand,

represent the aggressive element—the "new blood"—which the League requires more than all else and if successful they make no secret of the fact that they will carry their spirit and their ideas into the national body.

Of these ideas there is one that will supply an object that cannot fail to enlist the support and sympathy of press and public. In effect, it is the popularization of America as a touring ground—the popularization of its picturesque and historic and legendary routes, which carries with it the popularization of the bicycle as a touring vehicle, than which there is none better and few if any as good, although the fact has been but scantily appreciated. It constitutes such an issue as the League has blindly groped for and such as it requires if it is to remain other than a purely sentimental organization; it is an issue that assures it long and useful life.

Americans have been so long fascinated by many overrated glories of the Old World that the legends and history and natural beauties of their own country have lacked charm for them. If the cycle paths of Long Island were in England, the Shenandoah Valley and Gettysburg battlefield in France and the Hudson River in Germany the very soul of the average American would yearn to visit them. Europe holds no more glorious or interesting views, but because they are at our doors, Americans rush past them in the mad desire to "go abroad."

If the L. A. W. can aid in stemming this desire and in bringing our people—and incidentally foreigners—to an appreciation of their own country, its efforts cannot well fail of widespread approval. It may be the labor of a lifetime, but it will prove a life's labor well spent.

While the contrary appears the case abroad, the bicycle as a means of viewing the country has met with meagre recognition and use. The touring side of cycling, so keen in Great Britain, is very much undeveloped in America. In the days of the boom we were so full of racing and century runs and the like that we gave it small thought and now that the bicycle has "settled down" it is too generally viewed as a conveyance of utility and economy or for an afternoon's outing. To use it as a means of going far afield and viewing all that nature holds and that history has hallowed is foreign to the average cyclist's thoughts. He asks for good roads, but where they exist does not make the most of them.

Of course the word "touring" appears in the L. A. W. constitution, but it might as well

not be there for all that the organization is doing to develop or further that phase of the pastime. A live and aggressive administration can make the most of what may be termed a touring policy and enable the organization with its scattered ten thousand to again hold up its head in company with the C. T. C., the French Touring Club and the other foreign bodies in which "touring" is the watchword and which number from 50,000 to 80,000 members each.

The automobile and the motor bicycle which recks not for either hill or headwind—the tourists' twin terrors—will give a distinct fillip to the work and make the results more apparent.

Dealers and Unadvertised Bicycles.

The dealer who takes up a non-advertised bicycle is a fool for his pains. In the first place, he is foolish not to stick to well advertised and popular goods, and in the second place, he is foolish to pull other people's chestnuts from the fire.

Some dealers are attracted to non-advertised bicycles because of the claim of the maker that, "We give you the money which otherwise would go to the papers." The statement is shallow. It matters not to the dealer how much money the maker spends in advertising, except that the greater the expenditure the greater is the popularity and the sale of the bicycle, if it is at all backed up with merit.

Trash may be widely advertised and largely sold, but only for a short time. The bubble finally bursts, and nobody is benefitted. That is doubtless the reason why some bicycle makers do not advertise. They know the futility of it, and instead of advertising they attempt to play on the credulity of the agent with the statement quoted above, catch new easy marks each season, and do much to injure the reputation of well meaning retailers. There may be exceptions to this rule, but they are not in mind at present.

Take the maker who advertises, and you find him to be invariably reputable and the producer of good goods. He won't produce the other kind because he means to stay in the trade, and happily the fly-by-nights are few. The advertising maker of to-day brings out the best goods that the prevailing conditions permit. Through advertising his goods are publicly known, and when offered for sale require no introduction. The dealer finds life worth living when he handles well known bicycles, and if he possesses business ability he finishes his season with a profit.

On the other hand, the dealer who takes up an unknown, non-advertised line of bicycles is most certainly a candidate for trouble. He must introduce the bicycle, and that alone means a whole lot of wasted effort. If his probable patrons never heard of that make, they are sure to fight shy of it, and perhaps even his personal assurance that the make is all right fails to convince and to make a sale. In the end, if a sale is finally consummated and the dealer is wise enough to figure the cost, he stands an excellent chance of finding that he has expended a great deal more time and talk than would have been required to sell three bicycles of known character and popularity. He will find that even if he has made the doubtful gain that the maker claimed would "otherwise go to the papers," he has lost more than its equivalent in time and argument. That is the experience of many dealers, and that is why advertised bicycles secure the cream of the agents.

Motor Bicycles and Motorless Ones.

Like the hainless bicycle and the non-rigid frame, the motor bicycle may for the time being find the collective number standing aloof, but once the individual has had the experience of its use and its value he will become a convert that no outside blandishments or some idiosyncrasy on the part of the machine can prove strong enough to win him back to early modes.

The human race is progressive, and once it has tasted the fruits of keener joys and greater pleasures, it carries all before it, and will tolerate nothing that would place itself across the path in the vain hope of stemming the natural flow.

It is both unreasonable and senseless to compare the future of the motor bicycle and the past of the bicycle; to point to the long initiatory growth of the bicycle business as evidence that the motor bicycle must also pass through years of unappreciative missionary work. The bicycle was absolutely new to man as a means of locomotion and its growth had to depend on the gradual widening of the ripple from the smaller circle of the first cast. There was nothing in man's experience to which comparison could come from self-consciousness and converts had to be made from sheer force. Now that the bicycle has taught the people the wonderful possibilities within them and around them, it will be a strong missionary to lead its followers into the evolved movement.

It should not be thought though that the

motorless bicycle will give way to the motor bicycle and disappear from the face of the earth; that it will have strutted its brief hour upon the stage and then have made its exit. Such is not the future of the bicycle. It fills too well defined a position in the economies of life, and will continue to be a factor to give employment to mechanics and pleasure to everybody. It has been, and will continue to be, a necessary adjunct to a well ordered existence, and will be able to maintain itself where it belongs and in a field that is peculiarly its own. It introduced the pneumatic tire to the world of vehicular traffic, and is capable of holding its place in the fond estimation of the world at large.

Pluck wins! It always wins!

Though days be slow
And nights be dark 'twixt days that come
and go,

Still pluck will win; its average is sure;
He gains the prize who can the most endure—

Who faces issues, he who never shirks—
Who waits and watches, and who always works. —(Ex.

The Limit of Speed.

It is to be presumed that in the natural order of things there is a limit to man's speed and endurance, but it is the silent testimony of bicycle history that no sooner had the stopping point apparently been reached than some new aid to greater performances was developed and brought successfully into use; so that while we may reasonably permit ourselves to be astonished by the wonderful record riding of the year, we must conscientiously avoid falling into the error of throwing up both hands and exclaiming, "The end has been reached." It hasn't; not by a long shot.

When high bicycles had been pushed to their limit that was the first end, but in truth it was only the beginning. The safety soon triumphed. Then followed the pneumatic tire to turn over the entire record list, and on top of this came improvements in the machine itself that accelerated speed. Horse tracks gave way to bicycle speedways, that in turn became disused as newer ideas in track construction developed, and these steps being taken in unison with those of the advancing art of skilled multiplet pacemaking, had but the effect of causing a renewal of the erroneous but excusable cry that the future had no deeper promise in store.

Then came the still newer motor tandem, and with it what sensational performances! It has wiped from the books every human

paced record worth beating and has established new figures for every important distance and time. And with its work yet unfinished and itself yet unperfected in some ways, we are ever ready to look for newer figures and wonder where it will all end and to what lengths man's speed endurance can be carried.

Extending Credit Abroad.

The uninterrupted increase of England's cycle export trade, and of Germany's, appears to be viewed with little interest and no concern by the American trade, which accepts its position, a shrinking one, as a matter of course.

Whether American makers will again awaken and make an aggressive effort to regain the position they once held in foreign markets is beyond foretelling. Certainly the game seems worth the candle, but the efforts that are being made lack spirit and earnestness, nor do we think they will ever avail much while the American policy of cash against bill of lading rules.

When the world is crying for a particular product, such a policy can be followed without incurring disfavor, but when only a normal demand exists that nation which extends credit is the one that will make the greatest strides.

To our mind it is the extension of credit that has helped Germany into first place as an exporter of bicycles, and to the same cause we believe England's advance to be due, and though we say it with regret, we fear the American trade will never recoup itself until it does likewise. Credit is a mighty factor in making sales at home; its power cannot well be less abroad.

Responsible trade journals may generally be credited with a wise discretion as to publishing, or refraining from publishing, certain items of news which may come to their knowledge. The varied trade interests with which these journals are brought into contact enable them to gauge very accurately the advisability of giving publicity to any matter which may come under their observation. And it will generally be found that that discretion is used in a manner beneficial to the trade which they are established to represent.

The man who does not believe that the ark would have been greatly improved by an equipment of pneumatic tires and a hydro-carbon electric motor had better hunt the tall pines in the next year or two.

READY FOR BUSINESS.

1903

Agents wanted in every part of the United States to sell the celebrated

Orient Bicycles

NOW IS THE TIME TO RENEW OUR AGENCY.

NOW IS THE TIME TO APPLY FOR IT.

ADVANCE SPECIFICATIONS READY.

Waltham Mfg. Company, Waltham, Mass.

The Jobber Who Closes for 1903

before obtaining the new quotations on

VIM^{AND} HARVARD TIRES

may be doing himself justice; but we doubt it. He has but to write for our figures to convince himself.

BOSTON WOVEN HOSE & RUBBER CO. BOSTON, MASS.

SPRING FRAME ESSENTIALS

Points to be Observed in Designing That Form of Bicycle.

When manufacturers are looking around to see which of the particular departments in design or construction are likely to meet with popular approval, says a foreign contemporary, amongst the numerous departures of which the manufacturers will have to judge is the spring frame.

"In the first place, we may be allowed to point out what are the ideal conditions which are required to be fulfilled; and we would at once disclaim any attempt to describe an ideal spring frame. Ideal construction and ideal conditions are two absolutely different things. We have seen writers talk of and even describe ideal motor tricycles and other things, utterly disregarding the fact that the ideal is seldom capable of accomplishment in actual mechanical construction, for the simple reason that the latter is at best a compromise. Therefore, we would only point out ideal considerations, without attempting to describe any method of construction which would ideally fulfill these ideal conditions.

"In the first place, the distance from saddle to centre of the bottom bracket should, we believe, always be constant; secondly, the drive from the front chain wheel to the back sprocket wheel should be constant—that is to say, there should be no tendency to give elasticity in the drive other than that inherent in ordinary chain transmission; thirdly, there should be as few sliding or working joints as is possible, and, lastly, there should be perfect lateral stability as between frame and wheels.

"The first consideration is the easiest of all to comply with, and the majority of spring frames at present on the market meet this condition. The second requirement appears to have been greatly overlooked. If the back forks or frame are hinged at the point which is coincident with the centre of the bracket axle the distance between the centre of the bracket wheel and the hub wheel is always constant. But the mistake is often made of supposing that this constancy of distance between bracket and back wheel centres will insure a drive which is without any elasticity due to the spring frame where the latter is hinged with its rotating centre in the centre of the bracket axis. Such is, of course, not the case, and designers have been very slow in not seeing this point. It is obvious that with a back fork assembled with back hub, chain wheel and chain, and front bracket with cranks and chain wheel, and with, moreover, a hinged joint for the back forks coinciding with the bracket axle centre, the end of the back forks, providing resistance is applied against the revolution of the hub, will rise if pressure is put on the forward crank. That is equivalent to de-

pression of whatever spring appliance is applied to the rear stays.

"It is remarkable to note that the joint for the bracket and back frame movement, with the first maker to grasp this fact, is above the bracket axle axis and approximates very nearly to the pitch diameter of the rear chain wheel. That is to say, the distance of the joint from the centre of the bracket is very nearly equal to the radius of the pitch circle of the rear wheel sprocket. It is a little matter, but it means a lot in proper transmission of power in spring frames.

"Our third condition, calling for fewness of sliding joints, is an important one. Sliding friction will never be properly attended to by the public in any domestic device. It requires constant attention, and does not look after itself as does, to a certain extent, rotary friction. It has been given up in the springing of the vehicles used by the public, and only retained in vehicles run by engineering concerns. The difference between the elliptic springs of a 'bus or brougham with their shackles and the elliptic springs of a locomotive or a railway carriage or wagon or even a tramcar, with their guiding horn plates, involving sliding friction, are cases in point. Sliding friction, as well as working joints, will have to be reduced in any spring frame which is to come to stay.

"Lateral stability, our last requirement, is difficult to provide for, and some of the advantages which we have pointed out as in favor of certain types of spring frames as regards the first three requirements, fail where lateral stability enters into the question. Lateral stability, especially of the front wheel, within its fork sides, and of the back wheel, within its back frame, should be carefully provided for. Another and final point, and one upon which a great deal of controversy has arisen, is the slowing of a machine by reason of a spring frame. That, we verily believe, is accounted for by the shortening of the wheel base under load or sudden strain. If the spring frame is so constructed that its wheel base is lengthened when a shock comes upon it, in recovering from that shock it will give back to the drive some of the lost power which was absorbed in compressing the springs. This is difficult of explanation verbally, but easy of proof, practically."

Will Market Six Tires.

While they are old hands in the manufacture of bicycle tires, the International A. and V. Tire Co., who recently removed from Newton Upper Falls, Mass., to Milltown, N. J., have been devoting most of their attention to automobile tires. This does not mean, however, that those for bicycles have lacked attention; indeed, the bicycle tires that have been sold this season have done so well that the International people now purpose to apply themselves to that department and to push its interests aggressively. Accordingly, they are now out for business, and with five different varieties of tires—Chase, International and Metropolitan—and also a special article for motorcycles, they are in position to "talk turkey" to any jobber who is open to conviction.

MOTOR BICYCLE SCORES

Twice Out-Climbs Some Fifty Powerful Cars—Was a Chain-driver.

In the reliability trials run by the Automobile Club of Great Britain, held on September 1 to 6, inclusive, there were two hill-climbing trials in which a motor bicycle ran away from everything else, the events being open affairs.

The two hills climbed are known as River and Westerham, the exact distances timed are not stated, but approximate something less than four-fifths of a mile each. The first has an average gradient of 1 in 18.26 feet, with the steepest portion 1 in 8.9 feet. The average gradient for the second is 1 in 13.44 feet, with the steepest part 1 in 7.8 for 820 feet, with a sharp turn at one point, known as Hell corner. The surface was rough and greasy.

The winning bicycle was a 3 horsepower chain driven Humber. The time for River hill was 1 minute 59 seconds, and for Westerham hill 1 minute 55 seconds. The fastest vehicle time on River hill was made by a 6 horsepower steam vehicle, in 2 minutes 29 3-5 seconds, and on the same hill the time of the most powerful vehicle, a 22 horsepower gasoline, was 3 minutes 3 seconds. Westerham saw the fastest vehicle time made by a 20 horsepower gasoline, in 2:40 2-5, with the same 22 horsepower vehicle making it in 2:52 1-5.

Reports as to the motor bicycle contingent in the six days' runs are not yet available, as the observers rode with those in the nearest car and their reports are not in. In making it possible to observe in this manner, it should be stated that the vehicles were sent off in order and no vehicle was allowed to run ahead of its position if the leading car was running up to its lowest speed limit of twelve miles an hour.

Riggs Will Sell Both.

In addition to marketing the famous Cinch coaster brake, Frank Riggs, of the Riggs-Spencer Co., will hereafter act as selling agent for the Sager Gear Co.'s product, including Sager saddles, Sager gears and the new Double-Flexible spring frame. As is known, the relations between the Riggs-Spencer Co. and the Sager Gear Co. are very close, the new arrangement being practically in the nature of a reduction of selling expenses.

Hengerer Plant No More.

The plant of the Wm. Hengerer Co., Buffalo, which was recently purchased by the Snell Cycle Fittings Co., Toledo, O., has already been disposed of by the latter. The material on hand is being shipped to Toledo.

The German cycle show, which this year occurs October 18-27 in Leipzig, will not be confined solely to bicycles. Not only automobiles but sewing machines, cash registers, typewriters, etc., will be admitted.

~ The Wheel About the Hub. ~

A Cycling Function that Can Never Die—The Men and Club that Inaugurated It and that have Arranged that their Sons or Juniors Shall Perpetuate It—Its Twenty-third Observance Held this Year.

Looking back over the twenty-five years which separate the widespread sport of today from the humble beginnings of '77, it seems particularly fortunate that cycling should have had its beginning in Boston. Among all growing cities, the "Hub" has always understood the best and made the most of her recreative advantages. Her front door is the harbor, whose threshold no wheel can cross by itself alone; but her gateways to the North, West and South are legion; and none can say where the town ends and the country begins, or vice versa, as he finds his way in or out. It is the natural home for pleasure cycling. Going over Beacon Hill from downtown, the noise of traffic on narrow, crowded streets dies instantly behind you, and the swift descent on the other side brings the freedom of all outdoors in a minute of time.

In such an environment the new sport, espoused by a few valiant and progressive spirits, took deep root and flourished amazingly. As early as February 11, 1878, the Boston Bicycle Club was organized with fourteen charter members, and rooms were secured in an office building at 178 Devonshire Street, five or six flights up. Among the first twenty-five members were Alfred D. Chandler, the first person to mount a bicycle in the United States; George B. Woodward, now secretary of the Metropolitan Life Insurance Company, of New York; Frank W. Weston, founder of the American Bicycling Journal, now The Bicycling World; George R. Agassiz, son of the eminent scientist, and Charles Edward Pratt, an attorney-at-law, whose ready pen was the chief missionary tool of the times. There were also Edward C. Hodges, publisher for many years of The Bicycling World and L. A. W. Bulletin; Josiah S. Dean, long since Judge Dean, in Boston; J. G. Dalton, author of "Lyra Bicyclica," the first volume of cycling verse, and a contributor to all the wheel journals of the early days, and Edward W. Pope, one of the best known figures in the later industry. Col. Albert A. Pope, the pioneer manufacturer and one time president of the Massachusetts Bicycle Club (founded January 10, 1879), of which he had been the first member, was never identified with the Boston.

Not being content with first place only in point of time, this little group at once plunged into useful work and scored the first organized run, meet and race, held the first championships and made the first records,

devised the first club uniform and had the first clubrooms, founded, edited and published the first wheel papers, gave to the League of American Wheelmen its first president, became the first League club, and promoted the first foreign tour.

To the same source traces also the credit for the promotion of the first overnight excursion by a party of cyclists in America—the original "Wheel About the Hub," held on September 11th and 12th, 1879. Whether so anticipated or not, this early pilgrimage



"PAPA" WESTON.

JUDGE DEAN.

turned out to be no isolated event, but the beginning of an indefinite series, to be repeated year after year over the identical course, on much the same schedule, with a goodly number of the original Seventy-niners always—so far—on hand. Only the annual camp of the Cyclists' Touring Club of England, which holds at Harrowgate during the first ten days of August each year, is older. On this side of the water, at least, there has never been an attempt to inaugurate a similar, not to say a rival, function. It stands to-day as one of the few remaining links between the romantic interest which grew around the old high wheel and the prosaic period ushered in by the modern safety.

The idea was conceived some months be-

fore by the late Charles Edward Pratt, that year president of the club, and the route chosen was compiled largely from the log-book of his own riding. It figured out that by covering about sixty-six miles, a mounted company might go clear around that superb riding district, which extends from Roxbury, at the end of the city pavements, to the South Shore. There were novel possibilities in the enterprise, for, while all the spokes of the "Hub" had been followed in and out an infinite number of times, none had essayed to discover and mark its rim. The problem of how to make one continuous journey out of particular parts of many was solved with encouraging results. From beginning to end no two stretches were alike, the roads to be used were the best anywhere to be found, and one could take all but a few of the hills on a machine of half his own weight.

Invitations had been sent out quietly, but far and wide, and on the appointed morning some forty riders gathered at the corner of Walnut Avenue and Warren Street, Roxbury, two or three miles out from the business center of Boston, ready for the yet undisclosed itinerary. It was the period of distinctive uniforms and conspicuous insignia, of bugle calls and various suggestions of semi-military organization and discipline. A serious address by the captain to his men and their guests, mingling warning with instruction, seemed to be a natural and necessary preliminary. The line was headed by the Boston and Massachusetts Club men, followed by the Worcester Bicycle Club delegation, and one or more from Salem, Hartford, Conn.; Newark, N. J., and Washington, D. C., each conspicuously arrayed in the uniform and flying the colors of his home club.

At the word of command they mounted and started for the first rendezvous, Jamaica Pond, now with its roadways alongside a part of Boston's splendid park system. Old Roxbury dropped its morning work and looked on in amazement at the spectacle of forty "ordinaries" moved by a common impulse. They found their way to the open country through Forest Hills, Roslindale and other picturesque suburbs, stopped at Bussey Farm, which is a part of Harvard University, and at Brook Farm, that unique social experiment with philosophy and letters. The brook is still there, and the meadow which overflows in springtime, but no other of the old traces now remain; and the people whom a new order of things has

brought to the locality could not answer your questions, even if they tried.

The first noonday a halt was ordered for rest and refreshment in the maple grove which stands to the right and well along on the way from Dedham and Readville to the Milton Hills. A royal repast, such as no city establishment could excel, was found in waiting, to which, of course, full justice was



E. C. HODGES, PRESIDENT.

done. Indeed, so welcome and pleasant was their stay at this spot that it became known from that time on as the "Grove of Pleasant Memories," and the stop there, for the self-same purpose, is a fixture to this day. In 1884 what the uninitiated would call a "scrub" ball game was made preliminary to the noonday meal. It is played with zest, after the manner of a club divided against itself, until the coffee boils and the tables

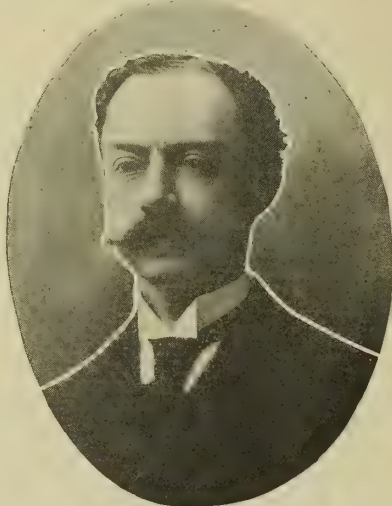


THE LATE CHARLES E. PRATT.

are fully spread. By this time the rival teams are close to all-around hostilities, and the umpire flees from the wrath of both sides toward the grove. The thought that this particular locality may be coveted for building purposes within the next few years, carrying away a cherished landmark, has latterly given some anxiety, tempered with the

hope that when the change is made, interests identified with the Boston Bicycle Club may secure it. This would mean the reservation of at least a part of it for club purposes.

In the middle of the afternoon there was a side trip to the top of Great Blue Hill, for a view which extends far up and down the rock-bound coast, and also inland for fifty or more miles over the hills and valleys, the lakes and streams of Eastern Massachusetts and Southeastern New Hampshire. For this once during the whole tour wheels were left



GEORGE B. WOODWARD,
FIRST CAPTAIN, BOSTON BICYCLE CLUB.

behind, for the ascent of Blue Hill is steep and winding, easier and more safely negotiated on foot. There was little delay, however, and an hour later the party halted in front of Cobb's Tavern, beyond Canton, a venerable memory of a century ago, for long draughts of home-made cider from the barrel which has never yet failed. Each one registered as if he intended to stay a week,



CAPTAIN W. G. KENNEDALL.

and delayed departure as long as possible, only allowing time to reach Massapoag, at Sharon, in the deepening twilight. It was thirty-five miles for the day.

This hostelry, almost exactly half way between Boston and Providence, is the end of all first day's runs, and the point where the turn toward the shore is made on the following morning. The trip chances to come just at the end of the season at Lake Massapoag, and for one night the bicycle veterans literally "own" it, with the knowledge and consent of all concerned. By 9

o'clock the dining room is turned over to them, with many tables loaded with good things. Following the banquet, two or three hours are given to that sort of reminiscence of which Old Timers never grow weary. It has its only counterpart in the annual club dinner, which is held in the city well along in the winter. Narrative and anecdote follow each other at a lively pace, with something especially prepared for the occasion



WILL R. PITMAN.

always within the chairman's reach, to be called out at the last. It is not long thereafter to that sleep which knows no awaking until the morning breaks.

The original party started out again after an early breakfast, for it was a long and hard half-day's ride on the heavy machines of '79 to Cohasset, thirty-one miles away on salt water. This point is reached by an intricate system of cross-roads, likely to lose



W. B. EVERETT, HISTORIAN.

the novice at any one of a score of places; but the aides of the Boston Bicycle Club could take them all blindfolded. The doubling back from Massapoag to Canton Corners is always more or less of a "scorch," for the slightest challenge means a brush which speedily involves the rank and file. The prize consists in being first at the cider

barrel of the previous afternoon at Cobb's Tavern. "Spills" usually occur along this part of the way. But beyond, through Randolph, South Braintree, Weymouth and Hingham to Cohasset, a more leisurely pace succeeds, and the party brings up at the appointed rendezvous for a final dinner in the early afternoon. Old-time fun lasts until the going down of the sun, and the "official"

one's first attendance upon the "Wheel About the Hub" is very likely to be the starting point for all of his calculations. Will R. Pitman, whose riding dates back to 1877, and who goes on from New York every year, may never live down (in his own mind) the disgrace of having failed to connect with the first run or two. As the first cycle salesman in America, he had taught many of the

of rig,yclept the "ambulance," always goes along, but so far in the role of a burden carrier, pure and simple. Until 1899 it was horse-drawn, but for three years now it has been an automobile, placing the oldest and the newest in close contrast.

Long since have gone from hence the bugle calls and the extreme picturesqueness of the earlier tours; but the old-time spirit remains. The first uniform—adopted March 4th, 1878—was grey, jacket, shirt, knickerbockers and stockings, with a blue Glengarry Scotch cap, a small leather visor in front, and the club badge on the left hand side. In 1879 brown corduroy was substituted for the grey, and helmets for the Scotch caps. In 1880 the color was again changed to blue, with a double-tube whistle attached to a white whistle cord worn around the neck. In 1894 all uniform, save the club badge, was discarded.

Idle crowds no longer gather at the same parting of the ways at Roxbury to see them off, nor curious eyes follow them through winding streets. At that time one could scarcely venture into an unaccustomed road with any assurance that he would be allowed to go its length unmolested. The famous "Liberty Bell" had not yet opened Central Park, New York, to this type of pleasure vehicle, and pioneers all over the country banded together in groups for mutual defence as well as for pleasure rides. A rare good fellowship was developed in several quarters. This spirit, with aggression and a distinctive idea well worked out, made the "Wheel About the Hub" what it was and is. The success of the first trip gave a real impetus to touring by cycle, which for several years could be definitely traced; and it has been continued by reason of its own vitality.

An account of the first pilgrimage was written by Charles Edward Pratt and published in the Century Magazine (then Scribner's) in the winter of 1879-80. It was the first contribution on a cycling subject to



IN THE "GROVE OF PLEASANT MEMORIES."

part of the "Wheel About the Hub" comes to an end.

This simple itinerary is followed with commendable exactness year after year; yet each repetition seems to add some new interest, which, once incorporated, is never allowed thereafter to lapse. The stated programme is only the humble means to many ends. Progress in wheel making and constant improvement in the roads all the way have lessened the physical exertion of the trip, and the time allowance for pleasant side issues has correspondingly increased. So a detour to the Cedar Lodge Hunt Club house and grounds, at Ponkapoag, in Randolph Township, has come to be as much a feature of the second forenoon as the stop at Cobb's Tavern is of the first afternoon. Here President Hodges and "Judge" Dean act as hosts to the party, a number of whom take a plunge in the pond, regardless of the weather. Likewise, when the line is formed for the final advance to Boston, the route leads through Atlantic, where Captain Kendall opens his home and, with Mrs. Kendall, entertains the veterans in the most unforgettable manner.

Into such a function the personal element enters very largely, as a matter of course. Men of large affairs do not set aside two or three days, as regularly as autumn comes, merely to do again what they have done before in the same way and manner. They have capitalized their enthusiasm for cycling, and continue to find sportsmanly interest where popular opinion imagines there is none remaining. One measures himself and his comrades-of-the-cycle by the yardstick of literal fidelity to the institution. The year of

charter members of the club to ride; while as first cycle traveler—or, better, missionary—he had acquainted large numbers of people with the use, and even the form, of the old high wheel. His slips were all at the beginning. President Hodges and Secretary Weston may take particular pride in the further distinction of having been with that company of ten who rode from Boston to



AT THE FOOT OF THE BLUE HILLS.

Brookline, Mass., on March 9th, 1878, the first informal cycle trip in the United States, as the original "Wheel About the Hub," a year and a half later, was the first formal one. Captain Kendall took the second trip, and has commanded the club for fifteen years, with a likelihood of continuing in that capacity as long as he will serve.

It is a somewhat remarkable fact that no excursion has yet been spoiled by bad weather, nor has any serious accident ever befallen a member of the party. Some sort

high class periodical literature, and attracted widespread attention. From that time to this, except for brief current news items in the Boston dailies, it has altogether escaped press notice. But the institution lives and thrives by reason of the undiminished interest of its participants and friends. The regular invitation list now comprises about four hundred and fifty names. One may reach Boston Bicycle Club membership only after ten full years as a wheelman; but a large junior membership, established some years ago, is rapidly coming to the fore, to perpetuate this annual classic of cycling beyond the times of their fathers.

Another Two-Speed Device.

Across the water considerable more attention is being paid to two speed devices to be used in connection with motor cycles than is the case in this country. Of course the general principle of all of them is more or less of a cut and dried order, where they are not of the kind which tries to establish a new mechanical movement. The various differences of those which are built on tried and true lines lie in the efforts to adapt them to lines that are compact and to operate them in simple ways.

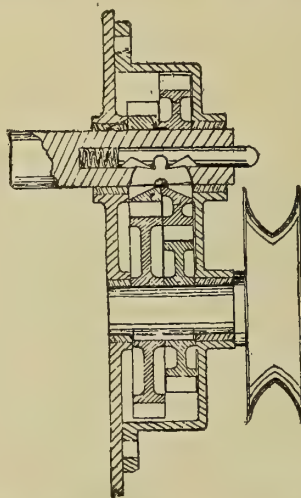
The illustration here shown is of a device designed in Liverpool to give two speeds and an idle moment. The method used is to employ the well known construction of two gears and two mating pinions of differing ratios. The feature of the device as a whole is in the arrangement of the shifting mechanism.

In a central counterbore in the motor axle is a sliding pin. Pivotted in this pin and extending through a slot in the axle is a rocking piece. This piece has two wings, also a dependant central lip which acts as the rocker. Each side of the hole for the rocking lip, the sliding pin is cut away with wide-angled V-shaped cuts. At some point in each pinion is cut a cross slot tapering toward the common centre.

It will be seen from this that when the sliding pin is pulled outwardly the rocker is tipped to engage the outer or high speed pinion, and when pushed full in the low

speed gears are working. The gear wheels are keyed to the secondary axle carrying the drive pulley.

When the sliding rod is in midway position



the rocker piece remains out of engagement and the motor runs idle. Of course when the rocker is tilted to engage for either speed the other gear and pinion rotate, but idle, owing to the necessary keying of the two gears on the pulley shaft.

According to the French tax returns for the year 1901, which have just been published, there are 1,106,768 bicycles in use in France, of which 181,552 are in Paris. Last year the returns showed a total of 987,130; in 1899, 837,856; in 1898, 483,414; in 1897, 408,869; in 1896, 329,816; in 1895, 250,084.

How a Hill-Climb was Handicapped.

Lacking the grade climbed and the distance ridden, the reports of a hill climb held on September 3 in Ireland are only interesting from the methods used in handicapping, the basis of which was as follows:

A rider of 10 1-2 stone (147 pounds) was taken as a standard, and lighter and heavier riders received penalties and allowances at the rate of 3-5 second for each pound, under or over the standard weight. The Minerva 1 1-2 horsepower engine was similarly taken as a standard, as having a relative capacity of 1,500 and machines of 2,000 relative capacity were penalized 17 seconds, and machines of 1,000 relative capacity received 23 seconds allowance. To these allowances and penalties were added penalties for pedalling. For each complete revolution of the pedals they suffered a penalty of one second, and more than twenty-five strokes disqualified.

The three leaders and the data relative to their performance is here given. Crawford rode a tricycle:

Name.	H.P.	Wght.	H'cap.	time.	Handicap.	Actual.
R. W. Stevens	1,544	11.6	-7 4-5	1:57 2-5	2:05 1-5	
F. A. Wallen	1,544	10.7	scratch	1:57 4-5	1:57 4-5	
W. B. Crawford	2,141	10.7	+16 3-5	2:06 1-5	1:49 3-5	

The riders were allowed a flying start. It will be noted from the times that the penalties for weight were more correct than either of the others, and a proof of the fact is furnished by the riding of F. A. Wallen and R. W. Stevens, who were mounted on the same machine, Wallen's advantage of 13 pounds in weight enabled him to ascend 7 2-5 seconds faster than Stevens, while the calculation of the handicapping committee was that it should have affected him to the extent of 7 4-5 seconds.

GOODYEAR TIRES

GIVE SATISFACTION TO THE RIDER
AND PROFIT TO THE TRADE.

SEND FOR CATALOG AND PRICES

GOODYEAR TIRE & RUBBER COMPANY

AKRON, OHIO

HINTS OF VALUE

What to do and What not to do to get the Best Service of Motorcycles.

No matter how carefully a gasoline motor may be made, it cannot operate successfully unless properly cared for, any more than a horse could work without food and other attentions.

The gasoline motor is a stickler for the proprieties. It demands that it be attended to at regular intervals. If, having been properly lubricated, a motor fails to work, the cause may probably be found in one of the following reasons: The gasoline pipe, or carburettor, may be partly filled with dirt; the gasoline of low quality; the batteries weak; the battery wires broken or short circuited; carbon may have formed on the platinum points of the plug; the insulation may be short circuited; the inlet or exhaust valves leaky, or the piston rings weak or worn out.

In a general way the following rules may be followed with success. If the precautions advised fail to make the motor operate successfully there must be something unusual the matter, and attention should be given to the matter by a well posted and practical repairer, unless one is mechanic enough one's self to locate and remedy the trouble. Before attempting to start see that the tank is full of good gasoline. Don't think you know it, but know it by testing. See that the gas reaches the engine. Notice if the valves work freely. If sluggish, or gummed up, clean with gasoline.

Test the plug; do not do this by detaching the secondary wire from the plug and endeavoring to get a spark between it and the engine. If you do there is liability of short circuiting the secondary winding of the induction coil, should the break be too long for the current to jump from the wire to the engine, and in that event the snap or jump will take place inside the coil. While a few such occurrences might not injure the coil, a continuance of this method of testing will without fail form a carbonized path between or through the insulation in the coil, and thereby produce a lead for the current having less resistance than the space between the two points, and thereby allow the current to follow that lead instead of jumping between the points. This is what is termed a short circuit in the coil, and is a common occurrence in the best of them where such carelessness in handling is indulged in.

Another reason for not using this method of testing is the example it sets others, for while the well informed motorist might successfully make the test, one less familiar with the results likely to follow might completely ruin a good and costly coil, and then blame the coil for giving out. An ounce of prevention is worth pounds of cure.

A far safer and more satisfactory manner of making such a test is to take the plug out, lay it on the engine; and then, by breaking

the primary circuit in the regular manner, see whether there is a spark. If no spark takes place, the cause may be that the switch is off, the batteries exhausted, wire broken loose from the terminal, carbon formed on the plug, or dirt or oil has prevented the primary circuit from being formed through the circuit breaker. If the switch is off, throw it on; if the batteries are exhausted (always carry an instrument for testing purposes), replace them; go over the wires and see that no connections are loose. After these precautions have been taken make another test, and a spark will be obtained at the break, unless the wires have been incorrectly connected. If this has occurred remedy the mistake and test again, until you are sure the ignition apparatus is right. Then replace plug and connect the secondary or plug wires securely.

Now proceed to try the motor again, and if



NEW YORK BRANCH: 214-216 WEST 47TH STREET.

it then fails to run the cause may be lack of or too much gasoline, and the carburettor should be given attention and careful regulation until a combustible charge is produced. The atmospheric changes must be taken into consideration in order to derive the best results. In cold weather gasoline does not vaporize as readily as in warmer weather; therefore it is a good plan to draw the air from about the cylinder. This will insure a combustible mixture. Too heavy a charge of gasoline will make the force of the explosion light by reason of the combustion taking place slowly, while too light a mixture will make the force of the explosion light because the charge contains insufficient heat units. As there is no exact method of ascertaining just what proportions of vapor and air are being used, the motorist is left to learn at what point the motor will give the best results, and regulate it accordingly, taking note each time of atmospheric conditions for future reference.

Back firing is caused in most cases by the spark plug being timed too early, or having become out of adjustment, or by the cylinder becoming hot, which could cause the mixture to explode when the compression reached a

certain point on the compression stroke. Remedy this by regulating the timing device, by readjusting it, or by allowing the cylinder to cool.

If the engine pounds when running, there is a loose bearing. Make the adjustment as soon as possible, to avoid unnecessary wear and possible damage by reason of the parts coming apart. If it pounds when starting it is most likely because the spark is timed to take place when the compression is too high. Remedy this by altering the time of the spark so that it takes place when the compression is lessening. This will reduce the force of the combustion and thereby enable the vehicle to get under headway at more even speed, and without unnecessary vibration. This applies particularly to motor cycles. If the explosion lack power and the remedies suggested above do not prove effective, the piston rings may need replacing, more lubricating oil may be needed, or the valves may need cleaning or replacing. If smoke is emitted from the exhaust it may be because too much cylinder oil is being used or because the mixture is too heavy. See to both these features and regulate until smoke fails to show. It will be almost impossible to produce a perfectly clear exhaust, however, hence a slightly bluish vapor need not cause worry. Finally, the following suggestions may usefully be learnt by heart by those who have lately joined the ranks of the ever increasing army of motorists:

Don't use cheap cylinder oil or steam engine oil in your motor.

Don't fail to oil your engine every time you run it.

Don't allow your carburettor to get filled with dirt.

Don't let your batteries or induction coil get damp.

Don't fail to examine the engine occasionally.

Don't make any changes on the engine or allow a so-called expert to tamper with it.

Don't blame the engine at once if it does not run; look for the trouble—it may be your fault.

Don't look for petrol leaks with a lighted lamp or match.

Remember that every manufacturer tests by indicator or brake every engine before dispatch, and each moving part is carefully adjusted and set. Leave the engine alone; never attempt to take the engine apart until you have run it awhile and have become familiar with it, unless absolutely necessary. Never take it apart from curiosity. When taking an engine apart be careful and note the marks; if there are none, make them, so that the pieces may be returned to their former positions.

It should be the pride of every motorist to keep his engine clean. All valves on the engine should be reground if they show the slightest wear. Carefully wipe them off before replacing. Examine all springs; see if they are free from rust and gummed oil; occasionally look after the batteries. See that the exhaust and inlet passages are kept clean. Remember that gasoline fires are easily extinguished with sand or earth. If in an inclosed space it is more easily extinguished by ammonia, which should be hung up in several bottles by cords that will burn, and where the bottle may be broken by the fall.

RACING

It was officially announced on Tuesday that the grand circuit of the N. C. A. for 1902 is closed the last meet being declared off for want of a track to take it. This leaves Kramer the champion, with Taylor second, Lawson third and Collett and Kimble tied for fourth place. The first three finished in the same order that they did last year, but Kramer this season has a bigger lead in points. Last year the final score was: Kramer, 80; Taylor, 66; Lawson, 50. Fourteen men won points in the championship contests this season, as against fifteen last year. The final score for 1902 is as follows:

	1st	2d	3d	4th	Pts.
F. L. Kramer.....	18*	4	1	0	128
Major Taylor.....	5	6	1	1	57
Iver Lawson.....	1	6	4	4	38
O. S. Kimble.....	0	4	3	4	28
G. H. Collett.....	0	4	6	3	28
W. S. Penn.....	1	0	1	4	17
J. T. Fisher.....	0	1	3	1	12
O. L. Stevens.....	0	0	2	1	8
John Bedell.....	0	0	1	1	4
J. B. Bowler.....	0	0	0	2	3
Lester Wilson.....	0	0	1	1	3
E. C. Bald.....	0	0	1	0	2
G. C. Schreiber.....	0	0	0	1	1
J. P. Jacobson.....	0	0	0	1	1

*Including dead heat with divided points at Providence, August 27.

The title of champion for the various distances has been decided as follows: Quarter-mile, Kramer; one-third mile, dead heat between Kramer and Taylor; half-mile, Penn; one mile, Kramer; two miles, Taylor; five miles, Kramer. There were twenty-four championship meets from the time the grand circuit started at Revere Beach, on July 12. Kramer beat Taylor nine times and Taylor beat Kramer four times, and they rode one dead heat. Taylor did not start on the circuit until after Kramer had thirty points by winning six races straight. Lawson also missed several of the early meets.

Were it not for the fact that but one timekeeper held the watch during the running of the two mile open amateur race at Vailsburg September 21, Hurley would now be credited with the best time ever made in competition for the distance, either professional or amateur—3:57 2-5. The N. C. A. rules, however, call for two official timers, in the absence of which Hurley cannot be credited with the two mile record. Eighteen amateurs were evolved from the three trial heats for the final. A cup prize for the winner of the most laps kept the field on the jump. At the bell Glasson, with Billington on his wheel, dug out for a long sprint. Hurley watched for them on the backstretch, and by a spurt caught them as they passed. Billington got by Glasson in the stretch, and only by the hardest riding did Hurley beat Billington at the tape. Glasson was but a foot behind, and Root was fourth. A blanket would have covered the quartet. The other amateur event, a one mile handicap, resulted in a stirring finish between Hurley and Root. The former was in front until a few yards

from the tape when Root caught him, and both crossed the finishing line on even terms. W. A. Penn was third and Edwin Bailey fourth. Root and Hurley rode from scratch. Penn had 120 yards and Bailey 80 yards. Time, 2:03. The single motor paced race, best two in three, five mile heats, was captured by Joe Nelson in straight heats. Otto Maya put up a great ride in the qualifying heat, and in the second heat Freeman rode next to Nelson nearly all the way. Nat Butler, by finishing second in the first heat and third in the second heat, secured second money. Freeman got third and Maya fourth. Nelson won the first heat in 7:01 and the second in 6:56 3-5. Nelson's time for four miles was 5:30 3-5. The former record, made by Nat Butler on September 7, was 5:31 2-5. At the finish of the five miles Nelson was only two-fifths of a second behind the world's record. He rode the fourth mile of the second heat in 1:21 3-5.

About 300 people witnessed the races given under the auspices of the Middlesex North Agricultural Society, at Lowell, September 21. The ten mile paced race between P. Keegan and J. Moran resulted in a victory for the former. Keegan took the lead at the start and seemed to gain at every revolution of the pedals until the fourth lap, when Moran sprinted and was soon at Keegan's side. Both men then lost their pace, but Moran was the quicker in regaining his machine and went by Keegan. Moran then held the lead until the beginning of the fourth mile, when he lost his pace, and Keegan, forging to the front, passed Moran and held the lead until the end. Keegan's time for the distance was 20:51 3-4. There were three entries in the two mile motor bicycle race. John Mahan was an easy winner, his time for the two miles being 3:28 3-4.

Although it will stand as the fastest mile ever accomplished, the performance of Frank Gately and W. E. Tensler on the State road, near Norwood, Mass., on the 20th inst., will scarcely be accepted as a "world's record," as it has been heralded. The fact that it was made on a down grade minimizes its merit, but at that time, 0:44 2-5, is staggering the men used Walthour's 10 h. p. motor tandem, and made three trials. On the first the distance was travelled in 0:59, on the second in 0:51, and on the third in 0:44 2-5. The watches were held by L. W. Allen, P. F. Vanripper, E. C. Carter and C. D. Davis. The course was straight away.

In Paris on the 14th inst., Contenet, who was beaten by Michael when the latter set up the hour record of nearly forty-seven miles, turned the tables on the midget in a race of the same duration. Bonhours, who also competed, fell at the half-hour, and the race was stopped, and after an interval Michael and Contenet started again, finishing the hour with the result stated. The winner's distance was only 67 kilometres 50 metres. Michael was fully three kilometres behind.

"Plugger Bill" Martin and Beauchamp have headed for Australia. En route to Frisco they may stop off and race at Salt Lake City. The two did not have a particularly lucrative stay in this country, Martin's reversal of form being marked. One first in a consolation race, was the best he could do. One second place was Beauchamp's best bag.

A cable from London, dated September 24, states that F. W. Chase, riding a 2¾ horsepower motorcycle at the Crystal Palace on that day, broke all records from five to fifty miles. He went five miles in 6 minutes 34 2-5 seconds, and fifty miles in 1 hour 7 minutes 57 2-5 seconds.

Joe Nelson easily defeated George Leander in a five mile paced heat race at Baltimore September 20. The proceeds of the race were given to Munroe and Hunter, who were so badly injured on the same track September 12. The first heat was done in 7:07 and the second in 7:08.

The Week's Exports.

No large shipments marked the past export week, the largest, some \$4,000, going to England. Australia and Africa were the other most conspicuous buyers. The record in detail follows:

Amsterdam—1 case bicycle material, \$6.
 Antwerp—1 case bicycles, \$15; 22 cases bicycle material, \$773.
 Bremen—2 cases bicycles, \$50.
 British Guiana—12 cases bicycles and material, \$172.
 British West Indies—17 cases bicycles and material, \$828.
 Brazil—3 cases bicycles, \$36.
 British Possessions in Africa—60 cases bicycles and material, \$2,669.
 British East Indies—26 cases bicycles and material, \$752.
 British Australia—62 cases bicycles and material, \$2,641.
 Copenhagen—35 cases bicycle material, \$1,648.
 Christiana—1 case bicycles, \$20.
 Dutch West Indies—8 cases bicycles and material, \$87.
 Danish West Indies—2 cases bicycle material, \$28.
 Glasgow—1 case bicycles, \$25.
 Hamburg—15 cases bicycles, \$1,088; 7 cases bicycle material, \$201.
 Havre—15 cases bicycle material, \$910; 2 cases bicycle machinery, \$435.
 Hayti—2 cases bicycles, \$22.
 Japan—1 case bicycles, \$35.
 Liverpool—350 cases bicycles, \$4,085; 10 cases bicycle material, \$1,007.
 London—22 cases bicycles, \$450; 33 cases bicycle material, \$1,757.
 Lausanne—5 cases bicycle material, \$75.
 Mexico—2 cases bicycles and material, \$66.
 New-Zealand—37 cases bicycles and material, \$1,459.
 Rotterdam—1 case bicycles, \$40; 1 case bicycle material, \$33.
 Southampton—8 cases bicycle material, \$1,323.
 Turkey in Asia—1 case bicycles, \$71.
 Uruguay—2 cases bicycles, \$194.
 Venezuela—2 cases bicycle goods, \$40.

DEALER'S DAMNATION

How he Hurt Motocycles in his City—The Other Side of the Picture.

Editor *Bicycling World*.

Sir—I was much impressed by the truth contained in your editorial, "Interest and Enthusiasm," in the issue of September 4, as regards awakening or killing interest in motor bicycles, for I had seen this illustrated in my own city and my own experience.

For quite a number of years the leader in that town was a man who jumped into the business in the early nineties, when the safety was starting on its phenomenal career, because his business instinct told him there was money in selling them. For years previous he had been a sewing machine agent; he understood human nature and was a good salesman. But he was not a cyclist from love of the sport—in fact, he much preferred a horse—and although he stimulated a great interest and rode a bicycle, his real enthusiasm was for the business he was doing and the money he was making. If instead of bicycles it had been ice cream freezers it would have been all the same. But business was good, he kept good goods in a well appointed store, talked convincingly and did well. With the decline in demand and the shrinkage of profits his enthusiasm rapidly waned; he quit riding, and widely advertised his conviction that the day of the bicycle was over. This had a depressing effect on some of the old riders, who had been in the habit of looking to him for information of the newest thing in their favorite sport, but failed to convince those who knew of the merits of the bicycle as a machine for rapid riding and health giving sport combined with economy and convenience. They argued that the motor bicycle (this was in March of 1901), if it could do all that was claimed for it, was the bicycle of the future and what they wanted. But the dealer was not cyclist enough to enthuse over what he personally did not care for and could see nothing in a machine for which at the time there was no actual demand. However, his interest was aroused, and he finally—but against his own judgment—purchased a motor bicycle and put it on exhibition. In going thus far at that time he showed more enterprise than many dealers, but it was the trading instinct and not faith in the article that caused him to invest.

On the day of its arrival crowds flocked to his store to get their first view of the latest thing on wheels. Every kind of a question was asked as to its operation and abilities, but the dealer could tell them little or nothing. There it was, and if any one wished to buy it and try it, it was for sale. But no one was found who would buy without demonstration, and finally his head workman, who was much more interested in it than the dealer, was allowed to try it. So

the gasoline was poured in and the machine taken into the street, while crowds stood on the sidewalk to see the thing go. Well, it didn't go. For hours they tinkered it, but saving a few spasmodic explosions it utterly refused to move, and the dealer said: "The thing's no earthly good, and the man who puts his money in it is a fool."

So the motor bicycle was chucked into the basement, and the spectators were satisfied that they knew all about motor bicycles—that they wouldn't go, or, at best, only once in a while; that the bicycle would always have to be propelled by man power, and that motors were only for tricycles and automobiles. To the writer it was a bitter disappointment, for had it been a success he saw that for long distance touring, especially on European highways, the motor bicycle would have been an ideal machine. But it had been proved a failure, and the dream was over. On my return from Europe in the following fall I found that the dealer had sold out and gone into real estate.

This was the condition of affairs last winter when I again had my interest awakened by reading the *Bicycling World* and the published testimonials of riders of the Mitchell, Orient and Auto-Bi, appearing in your advertising columns from week to week. I wrote these people and also put a note of inquiry in your publication. The riders replied that the motor bicycle was all right, and my letter in the *Bicycling World* called out an old friend, who had toured many miles with me in days of old. He wrote me that he had gone into motor bicycles; that they would do what I wanted of them, and that he was coming to town and put me on one. This he did, and sold me a machine inside of twenty-four hours. But he could not have done this had he not been thoroughly familiar with the working of the motor bicycle—for my previous disappointment was still vividly in mind—and filled with enthusiasm for what it would do and the pleasure that it afforded. This had a great influence with me, for I knew that Corson had been a lover of the wheel since the dawn of cycling, and knew all about bicycles from tire to handlebar—how to make and how to sell them—and had been one of the most successful agents in the business. But, more than all else, I knew that he was a lover of the sport; that he had rather ride than eat, had rather sell bicycles at a bare living profit than other articles with a fat margin, and would talk all night on cycling matters if one would listen to him. Any old rider could see that his faith and enthusiasm were genuine, and I put my order in at once. He has had similar success with other cyclists in other places, has already sold many motor bicycles, and next year will be doing a large business.

Had the dealer first mentioned had Corson's interest and enthusiasm he would not have rested until his motor bicycle had been made to go, or been replaced by one that would. But he was not a genuine cyclist; he condemned the motor bicycle both before and after it was bought, and the exhibition

he made of it put back the sale of motor bicycles in his city at least two years. I think I am the only one in that town who at this date has had the courage to buy one, for do not the wheelmen there know all about the motor bicycle, have they not seen it act, and want none of it?

I left town for the summer immediately on securing my new mount, or I might have shown them the other side of the picture. As it is the city is still full of doubting Thomases, although the heaven is working and the bicycle dealers there are at last waking up and will be on hand with motor bicycles early in the coming year. But these dealers and every other bicycle dealer in the United States who pretends to keep up with the times should be looking sharply after the motor bicycle now; should decide what make they will push; secure one, ride it, learn how to regulate and repair it, and, more than all else, be enthusiastic—this will be easy for the genuine cyclist; if not, they should appear so—as regards its claims to consideration by those who wish to indulge in the most fascinating form of cycling.

F. A. ELWELL.

Sources of Gasolene.

Gasolene is to a motor bicycle what oxygen is to mankind. Nevertheless, the average owner at present knows little or nothing of its origin, composition or possibilities. Unlike coal, gasolene is only in its infancy, and the world's supply seems practically inexhaustible. The evolution of gasolene from crude oil is a study in itself; and, on account of its fecundity and general usefulness, deserves a prominent place in the annals of invention.

There are few experts more closely acquainted with the science of gasolene manufacture than Dr. Paul Dvorkovitz, the well known Russian chemist, founder and editor of the *Petroleum Review* and organizer of the first International Congress.

"Hitherto," he said in a recent interview, "America has been the chief country to produce gasolene, but the discoveries of the Dutch Indian petroleum fields in Java and Sumatra, and lately in Borneo, and the development of the Rumanian oil fields, have made the supply no longer limited. The cheapening process will also be assisted by the fact that instead of forwarding gasolene to the European markets in small casks, the chief distributors of the Dutch Indian oils, are now in a position to deliver it in bulk, as illuminating and other oils are delivered, and this will enable firms to purchase greater quantities at a time. Thanks to this condition, the Russian Government has removed the regulation forbidding the transportation of light petroleum in bulk, consequently the Russian fields furnish an additional source of supply."

It is estimated that 97 per cent. of motorcycle troubles are electrical trouble. It follows that the "A B C of Electricity" should prove of interest to all motocyclists. Price 50 cents. For sale by the Goodman Co., 124 Tribune Building, New York.

WITHOUT EXHAUST ODOR

Well Known Examples of Combustion Suggest Possible Odorless Exhaust.

"Every person has at one time or another seen a lamp burning without smoke or smell. A round wick kerosene (paraffin) lamp with air supplied to its hollow flame, both inside and outside, will burn a great quantity of heavy oil in a closed room with no perceptible odor. The gasolene burner of the first steam wagon I ever saw gave out no smell at all, burning its least or greatest fuel. I have seen a 10 horse power kerosene motor doing hard work, and exhausting for test purposes into the engine room, with no smell perceptible," says the Autocar.

"These examples very conclusively show that under some conditions both light and heavy oils, gasolene and kerosene or paraffin, can be burned in the open air or in a motor cylinder without smoke or odor. Hence an internal combustion motor, in which the fuel is burned under favorable conditions, except as to time available for combustion, apparently should give out no perceptible odor whatever.

"It is the rule, however, that all cylinder fired motors leave a trail of smelling vapors behind them as they go, although it seems impossible that such should be the case, because the cylinder charge must take fire from a spark, and hence must be in condition to burn clean and perfectly without smoke or smell, or perceptible residue of any sort. True, the fact in practice is the production of soot, more or less, in the cylinder and on the sparking plug, and a vile smelling exhaust. But how can this fact be?

"A cylinder charge of mere air cannot be fired; mix carbon with this air in gradually increasing quantities, and a point is reached where the compressed mixture can be fired by a spark, and a very weak explosion or burning will result. In some forms of motor having a very high friction the force of the spark fired charge is barely enough to run the motor; gradually increase the fuel supply, and there is a long range of mixtures of different proportions of air and carbon, which will take fire from a spark and burn with fury, and drive the motor piston violently, and, as a rule, will produce a smelling exhaust. How can this be?

"A mixture which can be lighted by a spark must be perfectly combustible, and must burn without residue of any sort perceptible to human senses. When the air in a motor cylinder is overcharged with carbon it cannot be lighted by a spark, as is well known, but so long as the cylinder charge can be lighted by the spark it is certain that the charge, at the point where the spark is delivered at least, must be perfectly combustible, and so cannot smell when exhausted, because the vile odors observed in

the trail of the automobile are due to unconsumed carbon.

"Hence the conclusion that fuel is contained in the ordinary internal combustion motor cylinder in two entirely distinct forms—one form perfectly combustible, as proved by sparking firing, and the other form susceptible of roasting and charring only—is forced upon the observer."

In case the carbon of the charge is in the form of a fixed gas, incapable of condensation under existing conditions, odor can ensue only when the mixture is perfectly combustible at the spark and is incombustible at other locations in the cylinder; that is to say, the charge must be "stratified," or differently charged, with the combustible in different places.

Where liquid fuel is used, as gasolene or kerosene, it is never so treated as to take the form of a fixed gas. If it was so treated any mixture capable of spark-firing would burn cleanly, and could not possibly produce an evil-smelling exhaust, save by stratification.

But if the hydro-carbon fuel, gasolene, for instance, is merely atomized, and is only suspended in the air of the cylinder charge, then the possibility of exhausting unburned fuel, and so creating an abundance of smoke and bad smell, is existent, because this atomized fuel condenses the moment it touches a metallic surface not hot enough to burn it.

Gasolene is now fed to cylinder-fired motors by two methods—carbureting, in which the air is passed in close contact with the volatile hydro-carbon, and so picks up an uncertain quantity of the fuel as it goes to the cylinder, or by "atomizing," in which process the cylinder charge of air is made to pass a small hole from which gasolene is flowing, and so atomizes the fuel and carries part of it in suspension into the cylinder, and deposits part of it on every metal surface reached in the transit of the air from the atomizing point up to the time of charge-firing by the spark.

With a violent air blast a jet of very finely atomized gasolene was almost wholly condensed and changed to fluid form by being driven through a smooth brass tube, 5-32 inch bore and 6 inches long, with a short up-curving end of easy radius, so that the fuel entering this tube in the form of an almost invisible mist, and driven rapidly through it by an air blast, came out in fluid form, a sputter of small drops, instead of in an even and uniform mixture of atomized fuel and air, as was desired.

This simple experiment, with its invariable result of liquefying the atomized fuel delivered to the small diameter short smooth-bore tube, and driven out rapidly by an air blast, shows very clearly how the cylinder may have a perfectly combustible charge surrounding the spark, which is generally delivered as near the middle of the compressed charge as may be, and yet have gasolene in fluid form on the piston and compression chamber walls. Under these conditions the combustible part of the charge would burn, and that part of the charge which was too "rich" to burn would

be roasted and driven out with the exhaust, unburned and smelling.

This points to short charge-entering passages, and makes the fuel-wasting proclivities of all two-stroke cycle motors easily understandable. Every metal surface touched by the incoming atomized fuel takes a coating of liquid fuel, which cannot burn, and merely chars before it is exhausted.

With a four-cylinder motor, cylinders 1 13-16 in. diameter by 2 1/4 in. stroke, and admission ports leading to the admission valve only 3/4 in. long, the ports being 1 in. by 1/2 in., and the pistons making 1,500 double strokes per minute, with the fuel atomized directly into the ports, there was no visible exhaust, no perceptible odor, and, what is more to the point, no soot or discoloration of the piston heads, spark plugs or interior of the compression chamber.

Such a toy-size motor is most unfavorable for the use of liquid fuel, because of the large containing wall surface as compared with the small combustible mixture bulk, and the consequently favorable conditions for fuel condensation. Yet by virtue of the short induction passage and the high piston speed, and the fact that but one valve is used for each cylinder, this single valve acting for both admission and exhaust, and so being hot enough to vaporize the fuel, and not hot enough to burn it, the fuel was all perfectly burned, without soot or smell anywhere.

The conclusion is irresistible that with slow motors using liquid fuel a smelling exhaust is unavoidable, simply because the motor is slow, and so gives time for condensation of the fuel and the formation of a compressed charge, some parts of which will burn, while other parts of the same charge will not burn, even in contact with the vivid sheet or mass of flame which fills the cylinder while the combustible part of the charge is burning.

The surprising readiness with which atomized liquid fuel resumes the liquid form, and the equally surprising quickness with which the high pressure established in internal combustion motor cylinders disappears, must always be considered in motor designing, and the steam engineer who undertakes to burn his fuel on his cylinder pistons instead of under boilers finds he has a lot of things to unlearn. Steam is like a waterfall in its slow persistence of energetic action, and the motive fluid in a gas engine is comparable in effect with the blow of a sledge hammer: the effect is great, but it has no duration, and hence no expansion possibilities; and where liquid fuel is used with any form of spraying or atomizing, the form of the admission port and passages is a most surprisingly important factor in the economical working of the motor.

England's Exports Still Increasing.

The upward movement of England's cycle exports has suffered no interruption. In August they attained a value of £61,542 as against £50,457 during the corresponding month of the previous year.

To Lessen Motor Costs.

Two inventions of great importance for the development of the cycle and motor industries have been reported as patented on the European Continent and in this country. The first is a clever idea of cheapening the manufacture of steel castings, which has been advanced by a F. Baldt, the manager of a steel casting works.

A master mould is first made from any pattern, and from this as many fusible patterns as may be required. The fusible pattern is placed in an iron box of suitable size, after which by means of compressed air the box is filled with moulding sand. The box is then run into the drying oven, where the fusible pattern is melted out. The casting, of course, is made from the dried mould.

By this process the employment of skilled labor is minimized, for the sand is driven by compressed air, and boys and laborers can do the work. Moreover, the castings are so clean that no chipping is required. Interlocked articles can be cast by this process in exact duplicate.

The second is an improvement in casting steel, to avoid blowholes so often produced, owing to the pressure in the mould of atmospheric air. In this process, the invention of a Mr. Lustig, hydro-carbon gas or vapor is stored round and under the covered mould. When the filling of the mould begins the superheated vapors enter, thus displacing the atmospheric air. After the mould is filled it is covered, and the vapors pass

through the steel in order to face automatically whatever atmospheric air has entered.

From tests which have been made it would seem that there is an increase in the merchantable quantity of steel obtained of 15 to 40 per cent. The chief merit of the steel, however, is to be found in the fact that it is most readily weldable. The elongation of the new steel is 4.60, and of the old 1.09.

To Prevent Spots in Coloring.

In writing on the subject of different colors that take place in spots on a piece of polished and hardened steel when drawn, which come from grease in handling, a writer in the American Machinists suggests that "the easiest way to get a uniform color is to grease the whole thing, and thereby avoid the ungreased spots.

"Lard oil or vaseline may be used. There is a difference in the color produced by the two, and the user will have to do a little experimenting to learn just what share is best for his work, bearing in mind also that the different steels do not have exactly the same properties at the same color. Our method is to brush the article with vaseline, then heat until nearly the desired color is obtained, then wipe the object with a rag or waste previously greased with vaseline.

"Strange to say, this wiping lowers the color considerably. Then we reheat and wipe again, with a less marked loss of color. Usually we get the desired color after the third wiping. This method enables us to produce a very rich and uniform color which makes quite an ornamental finish. Work colored with vaseline is darker than that colored with oil, and the latter is darker than the bare steel, other conditions remaining equal."

The Production of Zinc.

One of the most ancient industries in existence at the present time in Europe is the production of zinc in Silesia. From the sixteenth century calamine was obtained in the manors of Beuthen and Jagerndorf; it was used in the local manufacture of brass, and it was exported to the countries adjoining the Oder and Vistula. During the thirty years war, when the workmen, mostly Huguenots, had abandoned the mines, this industry disappeared, and its exploitation did not recommence until the eighteenth century, when George de Giesche, a Breslau merchant, obtained in the year 1704 from his sovereign Leopold the privilege for twenty years to extract calamine in Silesia.

The first zinc foundry established in Silesia was that of Lydagnla, which existed from 1809 to 1900. At first prices were very high, \$27.75 per quintal. As the production increased, which in 1816 reached 20,000 quintals, prices dropped to \$3.75 and in 1820 to \$2.35. This year proved fatal to the high furnaces, some of which were obliged to shut up.

Since 1830 the production has continued to increase. In 1837 there were thirty-two works, employing 1,091 workmen, in activity, and the production reached 20,707 quintals. At present it exceeds 2,000,000 quintals, and requires nearly 8,000 workmen. The exportation in 1897 amounted to 496,004 double quintals, and in 1901 to 533,129 double quintals. The nominal price at Breslau is now about \$3.25.

THE PENNSYLVANIA RUBBER CO.

HAVE A

PROPOSITION OF UNUSUAL INTEREST TO JOBBERS

FOR 1903.

Write for Particulars.

ERIE, PA.



Model 16. Price, \$1000.

WOULDN'T IT MAKE YOU GLAD

to get a **TONNEAU MOTOR CAR** at the price of a runabout, and one that is just as good as the high-priced cars, and get it with as much saving of time as you save dollars?

You get all this when you buy the **BUFFALO TONNEAU**. It is a car specially designed to meet the great demand for a really comfortable, roomy car, provided with plenty of power to go practically anywhere without trouble. It is constructed with a long wheel base, making the car exceptionally safe, and is very easy to manipulate, owing to the absence of complicated mechanism.

E. R. THOMAS WORLD'S RECORD MOTORS

Took the only Gold Medal in the recent Fifty Mile Consumption Test held in New York.

BUFFALO TONNEAUS HAVE THOMAS MOTORS.

BUFFALO AUTOMOBILE & AUTO-BI CO., 1190-1200 Niagara St., Buffalo, N.Y., U.S.A.
BOSTON OFFICE, 174 Columbus Avenue. NEW YORK OFFICE, 29 West 42d Street.

THOMAS "AUTO-BI."



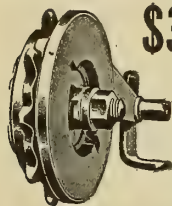
Model 4. Price, \$175.

" 3. " 150.

WANTS AND FOR SALE.

15 cents per line of seven words, cash with order.

WANTED—First class bicycle enameler and repair man. Steady work. F. M. SPINNING, Seattle, Wash.

**\$3.00 Coaster Brake****FITS ANY HUB.**

Screws on in place of the usual sprocket. Anyone can apply it. For free booklet and particulars, address

Canfield Brake Co., Corning, N. Y.

**The Only Tires Fit For
Motor Bicycles—**

GOODYEAR DETACHABLES

GOODYEAR TIRE & RUBBER CO., AKRON, OHIO

ALL ROADS ARE EASY WHEN THE



STAR BALL RETAINER

IS USED.

With millions in daily use, it has stood the test for more than five years, and is adaptable to ball bearings of any kind.

If you are users of ball bearings we would be pleased to hear from you and mail you our catalog with the latest information, which we know would be profitable and interesting to you.

THE STAR BALL RETAINER CO., Lancaster, Pa., U. S. A.

TO THE LIVE DEALER

who realizes the value of keeping informed about all that concerns his business this blank will be hint enough:

THE GOODMAN COMPANY,

124 Tribune Building, New York.

Enclosed find \$2.00 for which enter my subscription
to the BICYCLING WORLD for one year, commencing
with the issue of.....

Name.....

Address.....

WANTED.

TO BUY JOB LOTS OF

Bicycles, Tires, Sundries and Fittings.

WRITE US WHAT YOU HAVE TO SELL.

E. P. BLAKE CO., 57 Sudbury St., Boston, Mass.

You all know what the diamond stands for among
precious stones. You can't well afford
not to know that

D-I-A-M-O-N-D • T-I-R-E-S

occupy the same plane among res.

DIAMOND RUBBER CO., Akron, O.**THE CROSBY COMPANY,**

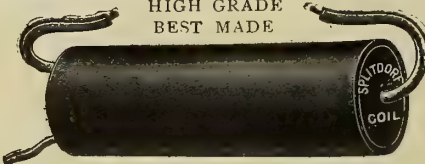
BUFFALO, N. Y.,

Sheet Metal Stamping.**The 1902 BRECKENRIDGE GAS LAMP**

—AND—

The 1902 Light Weight Oil Lantern.STANDARD BICYCLE LAMPS OF THE WORLD.
MANUFACTURED BYTHE NATIONAL CEMENT & RUBBER MFG. COMPANY,
Toledo, Ohio, U. S. A.

Send for our complete 1902 Catalogue.

SPLITDORF SPARK COILS.HIGH GRADE
BEST MADE

C. F. SPLITDORF, 17-27 Vandewater St., New York

REGAL BICYCLES.**STEARNS BICYCLE AGENCY,**

General Distributors,

SYRACUSE, N. Y.

Tourist Cars on the Nickel Plate Road.

Semi-weekly transcontinental tourist cars between the Atlantic and the Pacific coasts are operated by the Nickel Plate and its connections. Tourist cars referred to afford the same sleeping accommodations, with same class of mattress and other bedclothing, that are provided in the regular Pullman sleeping car service. These tourist cars leave Boston on Mondays and Wednesdays, and leave San Francisco on Tuesdays and Fridays. Berths in these tourist cars are sold at greatly reduced rates. Conveniences are offered without extra cost, for heating food, or preparing tea or coffee, affording every facility for comfort on a long journey, especially for families travelling with children. Lowest rates may be obtained always via the Nickel Plate Road for all points in the West. For special information regarding all trains on the Nickel Plate Road, including these tourist cars, consult your nearest ticket agent, or write A. W. Ecclestone, D. O. Agt., 385 Broadway, New York City. ***

**Westerners Returning From New England
Seacoast and Mountain Resorts**

To Pittsburg, Pa., and points on the Pittsburg & Lake Erie Railroad, will find the schedules and through train service, via Boston & Albany and New York Central, thoroughly up to date. Pullman Sleeper leaves Boston 10:45 a. m. daily, except Sunday, arriving Pittsburg 6:02 next morning. Dining car service enroute at convenient hours.

Copy of "Westbound," containing detailed schedule and train service of this and other through sleeping car lines west over New York Central lines, can be obtained upon application to Ticket Agent or Passenger Department, Boston & Albany R. R. ***

**Through Sleeping Car Line to Grand
Rapids, Mich.**

A Pullman Sleeping Car of latest construction is now attached to New York Central train leaving Grand Central Station at 4:00 p. m., daily, running through over the Michigan Central, arriving at Grand Rapids at 12:55 p. m., next day, connecting in Union Station for all points in Western Michigan. For information and sleeping car reservations inquire of New York Central Agents. ***

Liberty Dry Batteries

The best is none too good. Ours is best. Send for our illustrated booklet, describing our automobile electrical specialties, spark plug, coils, batteries, etc.

LIBERTY ELECTRICAL SUPPLY CO.,
136 LIBERTY STREET, NEW YORK.**TUCKER BICYCLE WOOD WORK CO.**

URBANA, OHIO,

Largest Independent Makers of

WOOD RIMS AND GUARDS.

The Week's Patents.

709,021. Bicycle tire. Henry Du Bois Leferts, New Brunswick, N. J. Filed December 27, 1899. Serial No. 741,744. (No model.)

Claim.—The method of making a bicycle tire, which consists in assembling (1) a strip of strengthening material treated with a solution of raw rubber and having its ends cut on the bias, (2) a second strip of rubber longer and narrower than the first strip and temporarily cemented thereto and having its ends cut straight, (3) a third rubber-saturated strip of strengthening material longer than the second strip and of substantially the same width, the second strip projecting slightly beyond one edge of the first strip and lying within the opposite edge thereof, and the third strip being extended beyond one edge of the second strip and lying within the opposite edge thereof, and (4) a tread-strip fixed to the third strip and of less width than the other three strips, then lapping and rolling successively the ends of the strengthening-strip, second strip, third strip and tread-strip, the ends of the several strips breaking joints, then overlapping and cementing the edges of the strips, leaving the tread-strip disposed on the inside of the tire thus formed, then partially inflating the tire, then subjecting it to a bath of boiling water, and finally reversing the tire to bring the tread-strip on the outside, substantially as and for the purpose specified.

709,280. Pneumatic tire. Irvin Tennant, Springfield, Ohio. Filed August 11, 1902. Serial No. 119,175. (No model.)

Claim.—1. A pneumatic tire comprising a tubular body having a thickened tread, lateral inwardly-arched diaphragms forming lateral protective chambers and a central chamber for compressed air, fillings of spongy-rubber located in said lateral protective chambers, and a metallic protective strip located in the tread and of a width greater than the exposed portion of the central air chamber, substantially as described.

709,306. Bicycle pedal. Joseph A. Decuir, New Orleans, La. Filed February 10, 1902. Serial No. 93,432. (No model.)

Claim.—1. The improved triangular pedal-frame comprising two hubs and three quadrilateral sections formed of thin plate metal, the plane of the end bars of said sections being at a right angle to that of the side bars and engaged with the hubs, and the side bars being secured together flatwise and their edges forming footholds, as shown and described.

709,380. Frame for motor bicycles. George Wagner and Burney B. Bird, St. Paul, Minn. Filed April 5, 1902. Serial No. 101,520. (No model.)

Claim.—1. A motor cycle frame, having a diamond-shaped body and an integral loop for supporting the motor, the loop extend-

ing below the lower front brace and forming a downward continuation of the centre brace, as set forth.

709,381. Two-speed gear wheel. William D. Wansbrough, Lincoln, England. Filed October 4, 1901. Serial No. 77,604. (No model.)

Claim.—1. In an adjustable wheel, the combination, with a back plate, of radially movable jaws carried by the said back plate, a flexible divided ring secured to one of the said jaws and slidable in certain of the remaining jaws, and means for moving the said jaws simultaneously to expand and contract the said ring, substantially as set forth.

709,397. Automatic bicycle pump. Theodore A. Diebold, Stuart, Iowa. Filed October 31, 1901. Serial No. 80,616. (No model.)

Claim.—1. An improved automatic bicycle pump, comprising, in combination, a bicycle wheel, a stationary axle passed through the wheel hub, and a pneumatic tire on the wheel, a frame secured to the wheel axle, a ring vertically movable relative to said frame, a frame rotatable on said ring, a rod projecting from said frame inwardly toward the centre of the bicycle hub, a pump fixed to the hub, a piston in the pump connected with the said rod, and a tube leading from the pump to the tire of the wheel, and means for moving the ring and its frame to a position concentric relative to the axle or to a position eccentric relative thereto, for the purposes stated.

709,445. Engine support. Albert W. Menns, Revere, and Alberto T. Van Horn, Malden, Mass., assignors to Menns-Van Horn Motor Company, Portland, Me., and Boston, Mass., a corporation of Maine. Filed January 22, 1902. Serial No. 90,785. (No model.)

Claim.—1. The combination with a cycle, of engine mechanism, supported wholly at the rear of the steering wheel to swing therewith in its steering movement whereby the weight of said engine mechanism will exert a constant tendency to maintain the steering wheel in a central position.

OILERS.**"PERFECT"**

25c.

"CEM"

5c.

"LEADER"

10c.

"CROWN"

5c.

"STAR"

10c.

We make oilers for almost the entire trade. The quality of our oilers is unequalled.

CUSHMAN & DENISON, Mfrs., 240-2 W. 23d St., N. Y.

The**RUTTED ROADS**

that come of Autumn rains and early freezes make the

COMFORT

of the

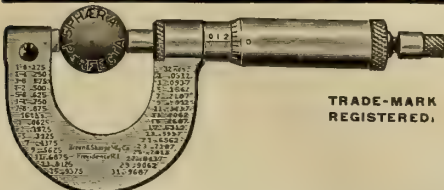
Cushion Frame

apparent and grateful in many places where the boneshaking of the rigid frame had not been as pronounced as usual.

MORAL.—Autumn is as good a time as any to talk, sell, buy and ride cushion frames.

HYGIENIC WHEEL COMPANY,OWNERS OF
CUSHION FRAME PATENTS**220 Broadway, NEW YORK.**

Home Office, Philadelphia.

TRADE-MARK
REGISTERED.**STEEL BALLS**

WE ARE THE ONLY MANUFACTURERS WHO CAN MAKE THE FOLLOWING GUARANTEES:

That every ball is a perfect sphere.

That every ball is within 1-10,000 of an inch of exact size.

That the balls are made of the best quality of true crucible tool steel

That balls bought from us at one time will be exactly like balls of a similar size bought from us at any other time.

THE STEEL BALL COMPANY,

832-840 Austin Avenue,

CHICAGO, ILL.

"MOTOCYCLES AND HOW TO MANAGE THEM"

REVISED EDITION

BOUND IN CLOTH

The only Book of the Sort in ExistenceCONTAINS A MINE OF VALUABLE
INFORMATION**PRICE, ONE DOLLAR****THE GOODMAN COMPANY****123-125 Tribune Building, - New York City**

If You are Interested in Automobiles,

THE MOTOR WORLD

Will Interest You.

It's readable,
and you can understand what you read.

Published Every Thursday

at 123-5 Tribune Building, New York.

\$2 per Year

'Specimen Copies Gratis

FAST TRAINS

Chicago & North-Western Ry.

The Overland Limited

California in 3 days

The Colorado Special

One night to Denver

The Chicago-Portland Special

Oregon and Washington in 3 days

The North-Western Limited

Electric Lighted—Chicago,
St. Paul and Minneapolis

Duluth and St. Paul Fast Mail

Fast train to head of lakes

The Peninsula Express

Fast time to Marquette
and Copper Country

NO change of cars. The best of everything. Call on any agent for tickets or address

481 Broadway - New York 435 Vine St., - Cincinnati
601 Ches't St., Philadelphia 507 Smith'ld St., Pittsburgh
368 Washington St., Boston 234 Superior St., Cleveland
301 Main St., - Buffalo 17 Campus Martius, Detroit
212 Clark St., - Chicago 2 King St., East, Toronto, Ont.



The Authority of the Cycle World

RELIABLE NEWS

ON ALL CYCLING EVENTS

Interesting & Comprehensive.
ADVICE TO RIDERS.

Unbiased opinions on mechanical matters.

WEDNESDAYS, ONE PENNY.

Printed at Bicknell and Hargreaves or from the

LIFFE & SONS Limited.

2, St. Bride Street, London, E.C.

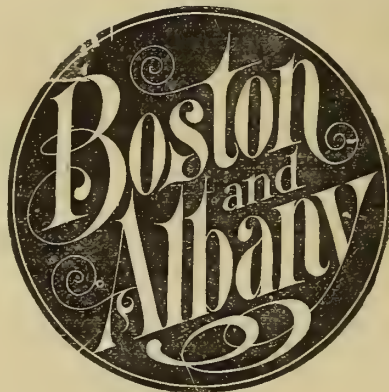
and HERFORD STREET, COVENTRY

NEVER LEAK

STOPS LARGE PUNCTURES.

This is the only fluid that can be legally used in pneumatic tires. Suits now pending.

BUFFALO SPECIALTY MFG. CO.,
Buffalo, N. Y.



Through Train and Car Service in
effect June 15, 1902.

TWO FAST TRAINS

	"Chicago" Special Via Lake Shore.	"North Shore" Special Via Mich. Cen.
Lv. Boston	10.45 A.M.	2.00 P.M.
Due Albany	4.10 P.M.	7.35 "
" Syracuse	7.55 "	11.25 "
" Rochester	9.45 "	1.15 "
" Buffalo	11.40 "	
" Toledo	5.55 A.M.	
" Detroit		8.25 "
" Chicago	11.50 "	3.15 P.M.

"Chicago Special" has through Buffet Library Smoking Car and Dining Car to Syracuse and from Toledo to Chicago.

"North Shore Special" has Dining Car to Albany, and from St. Thomas to Chicago. Both trains run daily and are made up of the most modern and luxurious vestibuled Sleeping Cars running through to Chicago.

For other service west, time tables, reservation, etc., address

A. S. HANSON, Gen. Pass. Agt., Boston.

If you ride or sell,
or intend to ride or sell
motor bicycles

"Motocycles and How to Manage
Them"

is the very book you need.

Every page teaches a lesson. Every illustration

"speaks a piece."

And there are 126 pages and 41 pictures, too

Price, \$1.00.

The Goodman Co., 124 Tribune Bldg., New York.



Via Rockford, Freeport, Dubuque, Independence, Waterloo, Webster City, Fort Dodge, Rockwell City, Denison and Council Bluffs.

DOUBLE DAILY SERVICE TO OMAHA

Buffet-library-smoking cars, sleeping cars, free reclining chair cars, dining cars.
Tickets of agents of I. C. R. R. and connecting lines.
A. H. HANSON, G. P. A., Chicago.

BOSTON & MAINE R. R.

**LOWEST RATES
FAST TRAIN SERVICE**

BETWEEN

Boston and Chicago

St. Louis, St. Paul,
Minneapolis

and all points West, Northwest, Southwest

Pullman Parlor or Sleeping Cars on all Through trains.

For tickets and information apply at any principal ticket office of the company.

D. J. FLANDERS, Gen'l Pass. & Ticket Agt.
BOSTON.

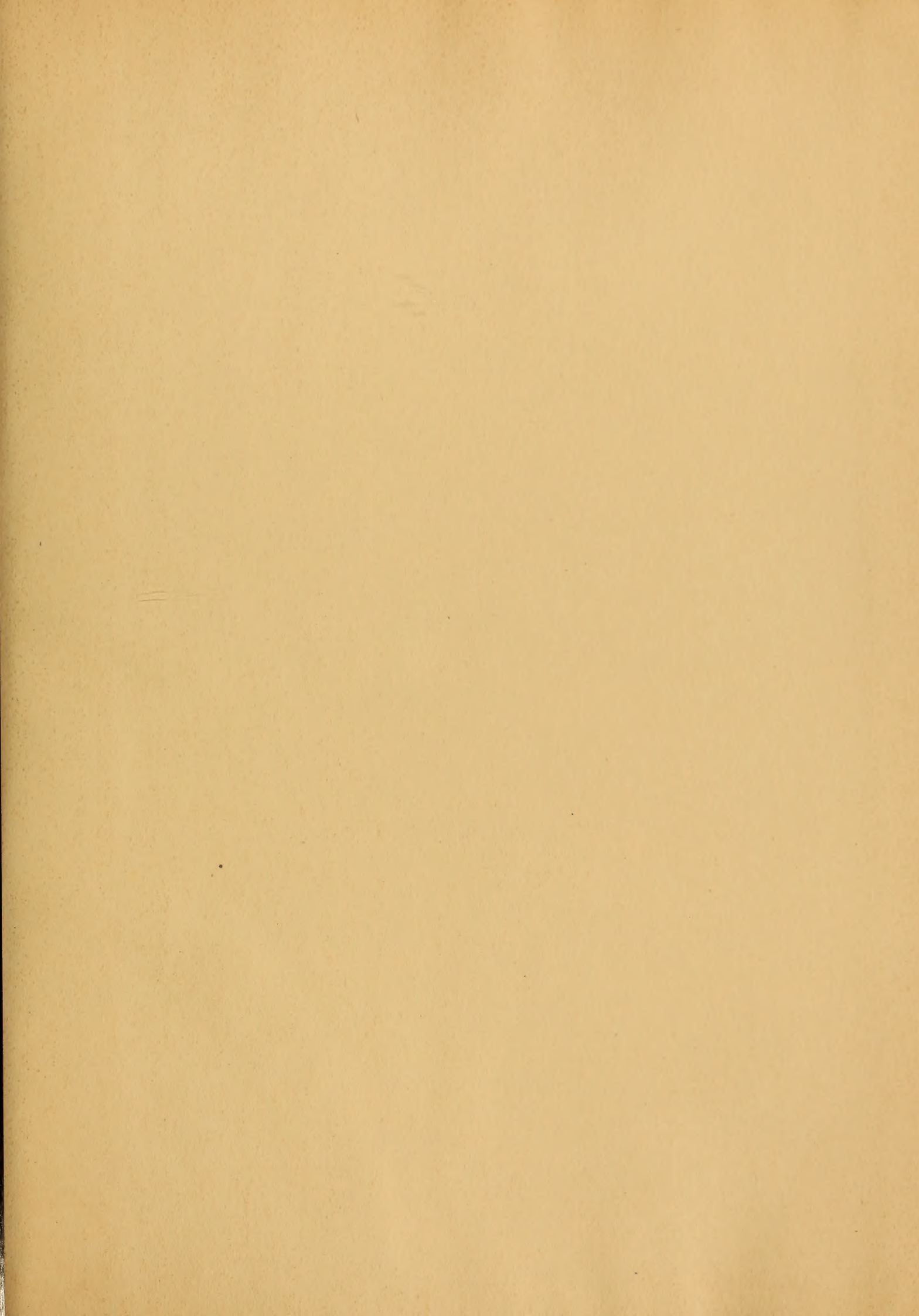
The Best Advertising Medium
for the Irish Trade is

THE IRISH CYCLIST

Specimen copy and advertising rates on
application to

R. J. MECREDY & SON, Ltd., Proprietors,
49 Middle Abbey St., DUBLIN.





SMITHSONIAN INSTITUTION LIBRARIES



3 9088 90033 0598